104-215

NPS-54-81-02

NAVAL POSTGRADUATE SCHOOL
Monterey, California

THESIS

AN ANALYSIS OF THE EVOLUTION
OF
GOVERNMENT PATENT POLICY
IN
RESEARCH AND DEVELOPMENT CONTRACTS

by

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March 1981

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Prepared for:

Chief of Naval Material
The Department of the Navy
Washington, DC 20360

T199166

NAVAL POSTGRADUATE SCHOOL
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This research was funded by the Chief of Naval Material, the Department of the Navy, Washington, DC 20360, Work Request N0003781-WR15161.

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REPORT DOCUMENTATION PAGE

READ INSTRUCTIONS BEFORE COMPLETING FORM

1. REPORT NUMBER: NPS-54-81-002
2. GOVT ACCESSION NO.:
3. RECIPIENT'S CATALOG NUMBER:

4. TITLE (and Subtitle): An Analysis of the Evolution of Government Patent Policy in Research and Development Contracts

5. TYPE OF REPORT & PERIOD COVERED: Master's Thesis March 1981

6. PERFORMING ORG. REPORT NUMBER:

7. AUTHOR(s): Patrick James Flanagan

8. CONTRACT OR GRANT NUMBER(s):

9. PERFORMING ORGANIZATION NAME AND ADDRESS: Naval Postgraduate School
Monterey, California 93940

10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS:

11. CONTROLLING OFFICE NAME AND ADDRESS: Naval Postgraduate School
Monterey, California 93940

12. REPORT DATE: March 1981

13. NUMBER OF PAGES: 156

14. MONITORING AGENCY NAME & ADDRESS(if different from Controlling Office): Naval Postgraduate School
Monterey, California 93940

15. SECURITY CLASS. (of this report): Unclassified

15a. DECLASSIFICATION/DOWNGRADING SCHEDULE:

16. DISTRIBUTION STATEMENT (of this Report)

Approved for public release; distribution unlimited.

17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)

18. SUPPLEMENTARY NOTES

19. KEY WORDS (Continue on reverse side if necessary and identify by block number)

Patent Rights
Government Patent Policy
Research and Development
Technology Transfer

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

This thesis presents the historical development of Government patent policy with respect to the rights to inventions arising from Federally-funded research and development contracts. Following World War II, the steadily increasing Government investment in R & D activities focused national attention on the controversial issue of patent rights. Several decades of debate notwithstanding, no uniform Government patent policy exists today. The 1980 amendments to the U.S. patent and trademark laws represent a compromise between the advocates of

the "title" and "license" schools of thought. The interaction of the Executive, Legislative, and Judicial Branches in attempting to establish a uniform Government patent policy applicable to all Federal agencies and departments has been unsuccessful. This situation provides the impetus for future legislative efforts in this area. This thesis provides recommendations for evaluating the impact of the 1980 amendments and insuring that the agency patent policy provisions are promptly implemented.

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AN ANALYSIS OF THE EVOLUTION OF GOVERNMENT PATENT POLICY IN RESEARCH AND DEVELOPMENT CONTRACTS

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Submitted in partial fulfillment of the
requirements for the degree of

MASTER OF SCIENCE IN MANAGEMENT

from the

NAVAL POSTGRADUATE SCHOOL

March 1981

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This thesis presents the historical development of Government patent policy with respect to the rights to inventions arising from Federally-funded research and development contracts. Following World War II, the steadily increasing Government investment in R & D activities focused national attention on the controversial issue of patent rights. Several decades of debate notwithstanding, no uniform Government patent policy exists today. The 1980 amendments to the U.S. patent and trademark laws represent a compromise between the advocates of the "title" and "license" schools of thought. The interaction of the Executive, Legislative, and Judicial Branches in attempting to establish a uniform Government patent policy applicable to all Federal agencies and departments has been unsuccessful. This situation provides the impetus for future legislative efforts in this area. This thesis provides recommendations for evaluating the impact of the 1980 amendments and insuring that the agency patent policy provisions are promptly implemented.

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I. INTRODUCTION

A. GENERAL

In recent months national attention has been focused on the need to stimulate a renewed surge in technological innovation by American industry. In support of this goal the Federal Government has placed emphasis on incorporating national science and technological policies with economic growth policies. Although research and development (R & D) are not the only instruments of technological policy, they do represent one of the primary factors in industrial innovation and economic growth. [Ref. 1]

During the current fiscal year, Federal agencies will provide more than 30 billion dollars in R & D resources, representing more than one-half of the national effort. Approximately 65 percent of Federal R & D funds are spent in the areas of defense and space. The remainder of the Federal R & D effort is devoted to civilian areas, with the largest increases dedicated to the energy and health fields. [Ref. 1] With each working day one sees more than 80 million dollars spent for Federal R & D; this figure represents about one-half of the entire yearly R & D budget prior to World War II. [Ref. 2]

A significant result of the steadily increasing Government investment in R & D has been the trend toward a cooperative Government-industry relationship. The Government policy of contracting-out the major part of its R & D work considered essential to public purposes is now firmly established. This means that Federal agencies now

procure a unique type of product from the private sector, and the use of acquisition policies of general application for the R & D environment creates special problems. There is an essential difference between the end product of R & D contracts and the goods and services obtained by the Government for other purposes. It is a simple matter to provide for the transfer of all title and rights in off-the-shelf products such as shoes, vehicles, or paper products. On the other hand, the "product" of R & D work is usually intangible. It may be an idea, a method, a design, or an invention. Traditional concepts of sale and purchase are difficult to apply to intellectual property such as an idea or discovery, and therefore rights and title to these can take such legal forms as a patent. [Ref. 2]

The acquisition of R & D results not only in the solution to Government needs but also in discoveries of a patentable nature that are not only useful to the Government but which have actual or potential commercial value. Disagreement and concern regarding the disposition and use of patent rights in inventions resulting from R & D contracts financed by the Government has been a continuing issue for several decades. [Ref. 2] In 1943 President Roosevelt expressed his concerns in this area:

> There appears to be need for a uniform Government-wide policy with respect to the ownership, use or control of inventions made by employees of the Federal Government, or by employees of Government contractors in the course of performing contracts financed by the United States. [Ref. 3]

More than 35 years later, the General Accounting Office (GAO) commented on this same point as follows:

> We have stated the need for a Government-wide patent policy on many occasions. . . The executive branch is still divided about a uniform Government-wide patent policy; this split has persisted for several decades. Notwithstanding attempts to implement the Commission's alternative proposal, no Government-wide patent policy is yet in sight. The Congress, therefore, must take the initiative to set the policy. [Ref. 4]

The multiplicity of issues surrounding the rights that the Government and its contractors should obtain in inventions resulting from Federally financed R & D are extremely complex. They require a thorough knowledge of patent law and the attendant legal terminology pertaining to rights in, title to, and licensing of inventions. In the discussion that follows, it was assumed that any consumer of the information contained herein possessed a working knowledge of the issues covered.

B. OBJECTIVES

On December 12, 1980 President Carter signed into law H.R. 6933, entitled "An Act to Amend the Patent and Trademark Laws." [Ref. 5] One section of this act specifically addressed the establishment of a uniform Government patent policy with respect to inventions arising from work performed under Federal R & D contracts. The provisions of this law are scheduled to take effect on July 1, 1981.

It must be noted that the initial aims established for this thesis were to formulate and present recommendations for legislative action aimed at resolving the Government patent policy question. During the course of the research effort, however, the Congressional action noted above occurred. Consequently, the scope of the thesis was enlarged to include the new patent law amendments. The objectives of the thesis

as revised were:

1. To review the historical development of Government patent policy up to the present time;

2. To review the interaction of the Executive, Legislative, and Judicial Branches of Government in establishing a uniform patent policy;

3. To determine if a uniform Government patent policy is currently applied in Federal R & D contracts;

4. To assess the impact of H.R. 6933 and to provide recommendations for future initiatives in the patent policy area.

C. METHODOLOGY

The thesis methodology consisted of the collection and presentation of information gathered from three sources. Literature research was used extensively, drawing primarily upon articles available in legal libraries. This information was categorized and analyzed. The analysis results were then used to draw conclusions relating to the objectives outlined in the previous paragraph.

The information collection process concentrated on the following three areas:

1. The determination of the historical evolution of Government patent policy. Information for this purpose was gathered through a literature search of scholarly texts and periodicals available in local legal libraries.

2. The determination of the role of the three branches of Government in developing patent policy. Information for this area

was gathered from a literature search of Congressional hearings and Committee reports. In addition, telephone interviews were conducted with Government personnel actively involved in the fields of R & D contracting and patent law.

3. The determination of the impact of H.R. 6933 on the acquisition of R & D services by Federal agencies. Information for this area was gathered from published agency procurement regulations and through reports provided by Department of Defense (DOD) activities. Telephone interviews were conducted with Government patent attorneys to identify the major changes involved in the new legislation.

D. ORGANIZATION

This thesis is comprised of six chapters and four appendices. Chapter I introduces the Government R & D environment and describes the thesis objectives and methodology.

Chapter II outlines the Constitutional basis for the United States patent system. The objective of this chapter is to illustrate the early efforts of the Executive Branch to define a uniform Government patent policy during and after World War II.

Chapter III provides background information on the role of Congress as an instrument in the national policy-making process. This background identifies specific examples of legislation which define Federal agency responsibilities regarding inventions made in R & D work financed by the Government.

Chapter IV traces the influence of the Presidential Memoranda and Statements of Government Patent Policy issued in 1963 and 1971. An

in-depth review of the most comprehensive studies on the patent policy question, including the Holst and Harbridge House Reports, is included. The recommendations of the Commission on Government procurement regarding patent rights issues in the Federal acquisition process are also presented.

Chapter V reviews the impact of the Nixon memorandum on agency patent practices, and the Public Citizen, Inc. lawsuits challenging regulations governing the licensing of Federally-owned inventions. In addition, legislative proposals for establishing a revised Government patent policy, including an analysis of the patent law amendments enacted, are examined. Note: Appendix D contains a complete text of the 1980 amendments, Public Law 96-517.

Chapter VI provides a summary to the evolution of Government patent policy up to the present day. Several conclusions are presented regarding the impact of the new patent law on agency acquisition programs. The chapter also contains recommendations developed from the information presented. In addition, possible topics for future research are identified.

II. EARLY DEVELOPMENTS IN GOVERNMENT PATENT POLICY

A. GENERAL

In order to recognize and address the diversity of issues involved in the area of Government patent policy, the author presents a historical development of the initial efforts to define a "uniform" patent policy for contract research. This chapter will first discuss the statutory basis and congressional intent underlying the American patent system. The development of patent policy during the period prior to World War II will then be presented. The chapter will conclude with a description of the activities of the Executive Branch in this regard through 1950.

B. UNITED STATES PATENT SYSTEM

A patent is defined as "a grant by the State or Sovereign to a designated person or corporation, of a certain right or privilege." [Ref. 6] Patents for invention have been granted at various times throughout history by governments and sovereigns. The first system established for the grant of patents in the modern sense was originated in England. According to the English Statute of Monopolies, the grant of patents for devices deemed to be written public knowledge was forbidden, but with an exception that the bringing into existence of a new invention by a first and true inventor would be recognized by the issuing of a patent. [Ref. 6] This provision, that new and original inventions were advantageous to the state and its citizens

and merited special inducement and reward in the form of a limited monopoly, was the Government's official recognition of the need for patents. The creation of such monopolies was seen as a contribution to the public wealth.

In the American colonies, especially in Massachusetts, New Hampshire, and Connecticut, there was some provision for granting patents, with the earliest patent having been granted in 1646. Incorporated in the framing of the U.S. Constitution was a provision authorizing Congress to establish a patent system. Article I, Section B reads in part:

> The Congress shall have the power. . . To promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries; . . .

Inventors were encouraged to risk their time and personal wealth in the creation of new machines and products, in hopes of realizing a personal reward commensurate with their contribution toward the public welfare.

Pursuant to the power provided to Congress by the Constitution, to secure to inventors the exclusive right to their discoveries and inventions, a series of patent acts were passed to provide for the scope of protection envisioned. Congress passed the first patent act in 1790, inaugurating the grant of patents under Federal authority. The major progress experienced by both England and the U.S. during the Industrial Revolution was due in large part to the stimulus provided by such a protective patent system. [Ref. 6]

The present patent act, known as the Patent Act of 1952, Title 35

of the U.S. Code (1964), provides that, "Every patent shall contain. . . a grant to the patentee [owner of the patent] . . . of the right to exclude others from making, using, or selling the invention." [Ref. 7] The law also provides that, " . . . whoever without authority makes, uses, or sells any patented invention within the U.S. during the term of the patent therefore, infringes the patent." [Ref. 7] Patents grant to an inventor the right to exclude others from making, using or selling the invention defined in the claims of the patent for a period of seventeen years.

No duty is imposed by the patent statutes requiring the patentee to make, use, or sell the patented invention nor to allow others to do so. However, the patent system under which the exclusive right is granted and through which such a right may be utilized and enforced has functioned to induce the creation and disclosure of new devices and developments by providing the possibility of material reward to the inventor. Public disclosure of the invention enables others to benefit by the knowledge presented and by the freedom to use this knowledge after the period of exclusivity expires. The ingenuity of others is thus stimulated by the new information. Alternative inventions and improvements may be produced as a result of the preceding discovery. [Ref. 8]

Another equally significant function of the patent system is to promote commercial utilization of the invention. This is accomplished by providing the inventor with a means of protecting the investment necessary for developing and marketing his patented invention. From

a historical perspective the patent grant must be considered as being directed initially toward the individual inventor. The intent was to foster the disclosure of inventions while discouraging their secretive use. It was well within the power of Congress to prohibit the assignment or licensing of a patented invention, requiring that the enclusive right be exercised by the inventor alone through his or her own activity. In such a case his or her reward, if any, would be dependent upon their personal efforts in exploiting the exclusive grant. However, neither Congress nor the courts who interpret the patent laws have been content to rely on the entrepreneurial talents of an individual inventor to bring the invention to the public marketplace. They have been interested in promoting the utilization of the patent in order that the direct benefits of the inventive development, in the form of both new and improved products, are available to the public. It was to this end, commercialization of the invention, that many of the practices of licensing and assignment of patent rights have developed. [Ref. 8]

As stated by Daus, there are two distinct objectives of the U.S. patent system: "(1) Disclosure of ideas and (2) Encouraging commercial utilization of these ideas to provide products for consumption." [Ref. 9]

C. PATENT POLICY PRIOR TO WORLD WAR II

Concern over the rights and title to inventions arising out of R& D contracts financed by the Federal Government was shown shortly after World War I. A limited policy was established under which the Government acquired a non-exclusive license in inventions made by a

contractor in connection with the development work of a Government contract. Some effort was made to adopt a standard patent rights clause during the early 1920's, but during the period between 1920 and 1940 the number and value of R & D contracts were evidently so small that the question of rights to patents on contract inventions was of little more than academic interest. [Ref. 8]

In some specific instances, most notably in the field of aircraft design competition, Congress provided an expression of policy on patents. Therefore, in the Air Corps Act of 1926 the Secretary of War was authorized to follow a license policy under which the Government received a non-exclusive, royalty-free license to patentable inventions with title remaining in the contractor. The U.S. Navy Bureau of Ordnance adopted a contract patent clause in 1930, followed by the Navy's Bureau of Aeronautics in 1932, and the Air Forces in 1936, all of which provided that the contractor should retain title to contract inventions and grant a royalty-free license to the Government. [Ref. 8]

In the time frame prior to World War II, almost without exception all Government departments, agencies, and bureaus either had no policy on patent rights or only required a non-exclusive license in inventions arising out of Federal R & D contracts. Hamann summarizes the situation as follows:

> Although there was a recognition that the lack of contractual definition of relative rights in inventions could result in disputes, this recognition did not extend to concern over dominant patent positions and seemed to be primarily directed to maintaining freedom of action for the government. [Ref. 8]

D. EARLY ATTEMPTS TO DEFINE GOVERNMENT PATENT POLICY

With the onset of World War II, the U.S. Government was thrust into research work to support wartime defense production. In 1940, total R & D expenditures in the U.S., financed primarily by the private sector, was less than 600 million dollars and amounted to approximately six-tenths of one percent of the nation's Gross National Product (GNP). During the war years the Federal commitment of R & D resources rose sharply and continued their growth in the late 1940's. [Ref. 10] For this reason, a growing concern over the rights in inventions arising out of development work financed by ever-increasing Federal spending led to a formal effort to establish a uniform Government patent policy.

1. National Patent Planning Commission - 1945

On December 12, 1941, President Roosevelt issued an Executive Order establishing the National Patent Planning Commission. The purpose of the Commission was to begin planning "for a full utilization of the Nation's expanded industrial capacity with the return of peace." [Ref. 11]

From 1941 through 1945, the Commission studied the U.S. patent system to ensure that it was operating effectively in the best interests of the public. Part of the study was concerned with the administration of patents owned by the Government, as well as with the respective rights of the Government and its contractors in inventions arising under Federal R & D contractual relationships. At the time the study was being conducted, Federal agencies which sponsored scientific research largely determined their own patent policy. The procedure most widely

used was to allow contractors to patent any inventions resulting from Government-funded research, with the Government reserving a royalty-free license. As previously shown, this "license" policy had been adopted by the Armed Services in the prewar era. It now became the wartime policy for the War and Navy Departments, as well as for the Office of Scientific Research and Development. In contrast to this policy, the Department of Agriculture and other public-oriented agencies, let contracts which reserved patent rights to the Government. [Ref. 12]

The Commission's report, submitted in January 1945, considered the question of Government-sponsored and aided inventions as follows:

> A considerable amount of governmentally subsidized research in connection with the war is now being conducted by educational institutions and by private concerns under Government contracts. The Government also sponsors research during times of peace but on a more limited scale. There is no way of calculating how many patents will result from war research, nor what proportion of the inventions will have application outside of purely military fields.
>
> Inventions made by Government contractors working on research and development contracts present important, and sometimes difficult, problems. The time, circumstances, and conditions under which the Government makes contracts for the pursuit of research or development work by private agencies vary greatly. The contract may be on a profit or nonprofit basis, and, if the latter, the Government may bear all or part of the expenses involved. The contractor may be an educational institution or may be an industrial firm or corporation. A particular contractor may be selected because of an accumulation of knowledge, experience, and special facilities of peculiar value in a certain field. Existing private research facilities may be utilized, thereby avoiding their duplication by the Government at considerable expense. In some instances the effort involved may be only a further development and refinement of work already done by the contractor, while in others the contractor may be breaking entirely new ground. [Ref. 11]

The Commission then turned to the question of establishing a uniform Government patent policy:

> It has been urged with considerable theoretical justification that there should be a uniform patent clause in all Government research and development contracts. The Commission has concluded that a single uniform practice would be unfeasible and undesirable from the standpoint of the Government. The ownership of inventions resulting from such contracts cannot be fairly determined by an arbitrary or fixed rule but should be established in each situation in accordance with the applicable circumstances. The Commission believes, however, that, since the Government has no need of the right to exclude conferred by a patent and does not enter into ordinary commercial enterprises in competition with its citizens, full ownership of patents should not ordinarily be asserted by the Government. An exception to this policy would be the situation in which private ownership of the patents would conflict with national interest. In those cases in which the Government does not acquire ownership of the patents, it should ordinarily receive as a minimum a royalty-free license. [Ref. 11]

The conclusions and recommendations presented by the Commission were summarized as follows:

> The general policy of the Government should be that of making its patented inventions available for commercial and industrial exploitation by anyone, but the Government should have the power to grant exclusive licenses or otherwise dispose of patents under appropriate conditions and safeguards whenever it is determined that such action is necessary to assure the commercial development of an invention of a Government-owned patent.
>
> The ownership of inventions resulting from research contracts cannot be determined in advance by an arbitrary or fixed rule but must be decided in each instance in accordance with the facts involved. [Ref. 11]

2. Attorney General's Report - 1947

In 1943 President Roosevelt had also tasked his Attorney General, Francis Biddle, to investigate the patent policy and practices of Federal agencies, and "to submit to me your recommendations as to a uniform policy for the entire Government." [Ref. 3] The Justice Department's effort lasted for four years, and culminated in a comprehensive, three volume report submitted in 1947.

With regard to rights to inventions made by Government

contractors, the Attorney General concluded:

> Where patentable inventions are made in the course of performing a Government-financed contract for research and development, the public interest requires that all rights to such inventions be assigned to the Government and not left to the private ownership of the contractor. Public control will assure free and equal availability of the inventions to American industry and science; will eliminate any competitive advantage to the contractor chosen to perform the research work; will avoid undue concentration of economic power in the hands of a few large corporations; will tend to increase and diversify available research facilities within the United States to the advantage of the Government and of the national economy; and will thus strengthen our American system of free, competitive enterprise. [Ref. 11]

The report then recommended:

> As a basic policy, all contracts for research and development work financed with Federal funds should contain a stipulation providing that the Government shall be entitled to all rights to inventions produced in the performance of the contract. [Ref. 11]

The findings and recommendations expressed by the Attorney General reflected his position regarding antitrust aspects of the patent policy issue; that is, that industry could establish monopoly markets based upon patented inventions developed with Federal R & D funds. Dempsey notes that the study "left no room for a flexible patent policy. . . All patents were to belong to the Government, with a proposed agency to administer royalty-free, non-exclusive licensing of Government-owned patents." [Ref. 12]

The second major aspect of Government patent policy, administration and commercialization of Government-owned inventions, received an interesting treatment in the report. First, it found that inventions can normally be exploited on a nonexclusive basis: [Ref. 3]

> While opinions vary, the weight of evidence is that Government-owned technology can for the most part be exploited to a satisfactory extent under a system of nonexclusive licensing or public dedication. [Ref. 11]

However, in situations where this approach proved ineffective at promoting commercialization, the Attorney General presented a novel alternative:

> In the occasional situation where the commercial use and exploitation of worth-while inventions is discouraged by the need for a substantial investment in promotional developmental and experimental work, with the attendant risk or loss, the Government should finance such operations, in whole or in part, to demonstrate or prove the commercial value of the invention. This method of encouraging the use of the invention is preferable to the grant of an exclusive license. [Ref. 11]

It can thus be noted that the report recognized two significant problems inherent in patent ownership by the Government. First, if the Government were to dedicate all of its patents to the public without charge, but did nothing more, some very worthwhile inventions requiring the investment of risk capital might well be ignored. The suggestion that the Government share some of the financial risks in commercial development, however, was apparently never given serious consideration. Second, the report recognized the "political implications of granting exclusive licenses and the fact that if it granted exclusive or royalty-bearing licenses it would have to police them and possible bring infringement suits. " [Ref. 3]

The Attorney General's report received less than unanimous support within Federal agencies. Several departments, among them the Public Health Service (PHS) and the Federal Aviation Agency (FAA), did in fact adopt patent policies reflecting the recommendations of the Attorney General. On the other hand, the Department of Defense (DOD) rejected the recommendations, preferring to retain its established policy of vesting title to invention in the contractor, with the

Government retaining a royalty-free license. DOD considered this arrangement more compatible with its mission of developing and procuring technologically advanced equipment, and was not concerned with possible commercial applications for inventions developed under R & D contracts. [Ref. 12]

3. Executive Order 9865 - 1947

Issued in June 1947, this first Executive Order by President Truman relating to patent policy concerns filing for patents abroad on inventions arising out of scientific and technical research carried on by or for the Government. The order stated in part:

> Whereas the Government of the United States now has and will hereafter acquire title to, or the right to file foreign patent applications for, numerous inventions arising out of scientific and technical research carried on by or for the Government;
>
> All Government departments and agencies shall, whenever practicable, acquire the right to file foreign patent applications on inventions resulting from research conducted or financed by the Government.
>
> The Department of Commerce shall administer foreign patents acquired by the United States under the terms of this order and shall issue licenses thereunder in accordance with law under such rules and regulations as the Secretary of Commerce shall prescribe. Nationals of of the United States shall be granted licenses on a nonexclusive royalty-free basis except in such cases as the Secretary shall determine and proclaim it to be inconsistent with the public interest to issue such licenses on a nonexclusive royalty-free basis. [Ref. 13]

Formal recognition was given to the potential worldwide commercial value of inventions developed in Federal R & D contracts. For this reason, the Commerce Department assumed responsibility for administering those patents held by agencies conducting R & D work. In addition, licensing of foreign patents was established to be on a non-exclusive, royalty-free basis similar to the domestic licensing

procedures also outlined in the Attorney General's Report. It must be noted, furthermore, that the President made no reference to domestic rights to patentable inventions arising from Federally-sponsored R & D contracts.

4. Executive Order 10096 - 1950

The primary purpose for this second order (issued by President Truman) concerning patent policy was to clarify the Government's rights to inventions made by Federal employees. [Ref. 13] In so doing, however, the order also acted upon one recommendation made by the 1947 Attorney General's Report by establishing a Government Patents Board. Comprised of a chairman appointed by the President and representatives from the ten largest Federal agencies, the Board assumed the patent administration duties previously delegated to the Commerce Department. [Ref. 13]

It is significant to note that the Board's jurisdiction did not extend to the administration of patent policy for domestic inventions, other than those discovered by Federal employees. Thus, it was responsible for but a small percentage of patents then owned by the Government or to be acquired in the future under R & D contractual arrangements. Again, the question of domestic patent rights in the case of Government R & D contract inventions was not treated.

E. GOVERNMENT PATENT POLICY IN 1950

The three decades from 1920 through 1950 evidenced a continuously growing concern and disagreement voiced by individuals in both the public and private sectors regarding the control, disposition and use

of patent rights in inventions arising from research and development activities conducted or financed by the Government. The increases in Federal expenditures for research during this period went from an annual research budget of about 20 million dollars in 1920 and 50 million dollars in 1938. The massive scientific exploration supported by the Government during World War II pushed R & D spending to over 700 million dollars in 1944. In that same year, over 70 percent of total Federal R & D expenditures were paid to organizations outside of the Government. Consequently, as the Attorney General's Report stated:

> . . . the full scientific resources of the country, including industrial and institutional as well as Government laboratories, were mobilized under Federal direction. . . Indeed, the nature of our modern industrial economy, and the marked acceleration of scientific advance in many fields during World War II, would seem to make inevitable a substantial participation by the Government in postwar research. [Ref. 13]

This burgeoning Federal investment in national R & D activities carried with it the possibility for discovery of countless significant inventions. [Ref. 2] This aspect of Government support in research, and the attempt at formulating a policy for such inventions that will best serve the public interest, furthers national scientific progress and brings about the most widespread enjoyment of its benefits. However, this argument for increasing the Government's role in research programs divided interested parties into two distinctly separated schools of thought on the patent rights question. [Ref. 2]

Quesenberry describes the two "camps of advocacy" as follows:

> One school, which is considered the traditional one at least by its proponents, probably dates back as long as there has been federal sponsorship of research and development. It covers the bulk of

patentable inventions generated with government funds. This point of view holds that the government should acquire only those rights to inventions which it needs, namely, the free use of such inventions for governmental purposes.

At the opposite end of the spectrum is a school of thought which holds that the government should, as a general policy, acquire all rights, including patent rights, to inventions concerned under government-sponsored research. . . The point of view first won official approval in the recommendations contained in a report of the Attorney General in 1947 and has been making legislative and administrative in-roads ever since. [Ref. 2]

The "traditional" school can be more easily identified as the advocates of a "license" policy, whereby Federal agencies would acquire only rights to practice the invention for Government purposes. DOD practices during this period are one example of this procedure.

Proponents of the "title" policy, as noted by Quesenberry, support the views presented in the Attorney General's Report described in a previous section. Agency patent policies such as those adopted by the Public Health Service reflected the views of this school of thought.

F. SUMMARY

The U.S. patent system is founded upon Congress' Constitutional power to "promote the progress of science and the useful arts" by granting exclusive patent rights to inventors. The goals of the patent system are: 1. disclosure of ideas, and 2. encouraging commercial utilization of these ideas to provide products for consumption.

Early attempts to define a uniform Government patent policy with respect to inventions arising in Federally-funded R & D contracts were largely unsuccessful. The Executive Branch received major inputs from the National Patent Commission and the Justice Department, yet subsequent

executive orders failed to address the issue of inventions discovered in Government contract perfcrmance.

At the beginning of the 1950's, no uniform Government patent policy had been developed. The next chapter will describe the manner in which advocates of the license and title schools of thought would continue to propose courses of action to define the Government's proper patent rights in a research environment characterized by ever-increasing Federal expenditures.

III. PATENT POLICY IN THE LEGISLATIVE PROCESS

A. GENERAL

This chapter will present a review of the major legislation enacted during the 1950's which contained specific provisions concerning the patent policy to be followed by newly-created Federal agencies and departments. With the rapid increase in Government funding for scientific research following World War II, both the Federal sector and the public at large exhibited a growing concern regarding the rights to inventions which would result from that R & D effort. The Congress initiated several bills designed to establish a uniform Government patent policy, such as the patent rights provisions in the Federal Research Foundation bill, but these attempts were unsuccessful. [Ref. 12] The problem of defining the proper patent policy to follow, however, continued to receive Congressional attention, though an more of an "exception" basis.

The author first presents an overview of the policy-making process in Congress. The patent policy provisions incorporated in authorizing legislation for individual agencies are then discussed. Finally, efforts made to define a uniform Government patent policy in comprehensive legislation introduced in the late 1950's and early 1960's are described.

B. THE CONGRESSIONAL POLICY-MAKING PROCESS

The making of laws in the United States is the primary responsibility of the Congress. The legislative process begins with consideration

of the need for legislation. This need may be expressed by a Presidential message to Congress, in departmental reports, or in statements by individuals of groups who view legislation as an effective tool to promote their various purposes or to satisfy a felt social need. The process continues with the consideration of specific proposals in the legislature and their possible enactment into law. It involves administrative rules and regulations which are issued to spell out and implement Congressional acts. The process continues with the review by legislative committees of the statutes in operation, possible amendments at times by the legislature, and interpretation of the acts by both the administration and the courts. [Ref. 14]

Galloway summarizes the characteristics of the legislative process:

> Thus legislation is seen as a dynamic and continuous process in which many people participate: constituents, interest groups, executive officials, the President, legislators, administrators, and judges. . . Very little legislation ever originates with the legislature itself. The legislature is the tribunal to which are brought proposed changes in the rules governing our lives. That tribunal, weighing the arguments for and against, renders judgment by the adoption or rejection of the proposed amendment to the laws. [Ref. 14]

Executive initiatives in lawmaking normally originate in the President's messages to Congress on the state of the nation, on the budget, in the economic report, and in special messages as may be required. The Presidential messages are referred to the Congressional committees having jurisdiction over the subjects covered. Supporting legislation, which is generally drafted by the executive department or agency concerned is introduced in both chambers by the chairman of the cognizant committees.

Though less than half of all legislation originates in Congress,

that body is solely responsible for reviewing, evaluating, and debating all legislative proposals, irregardless of their origin, and for determining the final definition of public policy. It must decide what bills are to be considered and enacted, as well as what the legislative policies for the nation are to be. The executive branch can formulate and execute; however, the Congress determines policy and evaluates its operation. [Ref. 14]

Two of the points briefly outlined above are key factors in the legislative development of national policy: the popular ideologies involved and the institutional roles of the participants in the process. Both factors are based upon one or more concepts that act as the foundation for the Congressional lawmaking function.

1. Ideologies

Lynch maintains that:

> Ideas are powerful especially when shared by many people. Ideas can guide people by discouraging certain types of activities and encouraging other activities. Ideas can be and are often used to place a value on people, things, activities, and even other ideas. Ideas can be consistent with other ideas forming belief systems. These systems in turn can be shared by many people and can guide entire civilizations. These belief systems are called ideologies and every culture has them. [Ref. 15]

The two primary ideologies which influence the lawmaking process in the U.S. are democracy and capitalism. Democracy in the U.S. arose from a desire to have representative government in the agriculturally oriented colonies. Specific rights, such as an inventor's exclusive rights to inventions, were considered indispensable and were incorporated into the Constitution. The democratic system of government is also an evolutionary process. Parties and groups interact in a government

formulated with an intentional separation of powers. Individual citizens can influence government policy by acting as a group and directing their efforts at participants in the political process. Lynch further notes that:

> The partisans interact and adjust policy based upon the relative strength of the lobbying forces. This strength is sometimes due to economic interests, but it can be due to shared and effectively argued belief systems. . . decisions will be made by both the executive and legislature. Public hearings will be considered important additions to the budget process. [Ref. 15]

A second major ideology apparent in the U.S. is capitalism. strict capitalism is based upon a desire to limit the role of Government in the economic activities of the nation. Advocates of capitalism are adamantly opposed to national efforts aimed at redistribution of wealth and the use of Government control to achieve economic stability and growth. The dispute centers on inhibiting private sector economic activity and freedom versus using Government as an active participant in economy to prevent possible abuses by private enterprise. [Ref. 15]

From 1890 on, a contrary belief system arose in the country which advocated a total role for Government in society. Lynch comments:

> Government would have to run society and curb the natural economic abuses of the wealthy elites. . .In the United States, the belief system has served to raise the social conscience and the earlier forms of capitalism (e.g., child labor and shorter work week) have been greatly modified. Especially after 1932, the federal government has come to play an active role in society, on such matters as consumerism, environment, inflation, recession, and safety. However, the debate continues on what should be the role of government in society and in the economy. [Ref. 15]

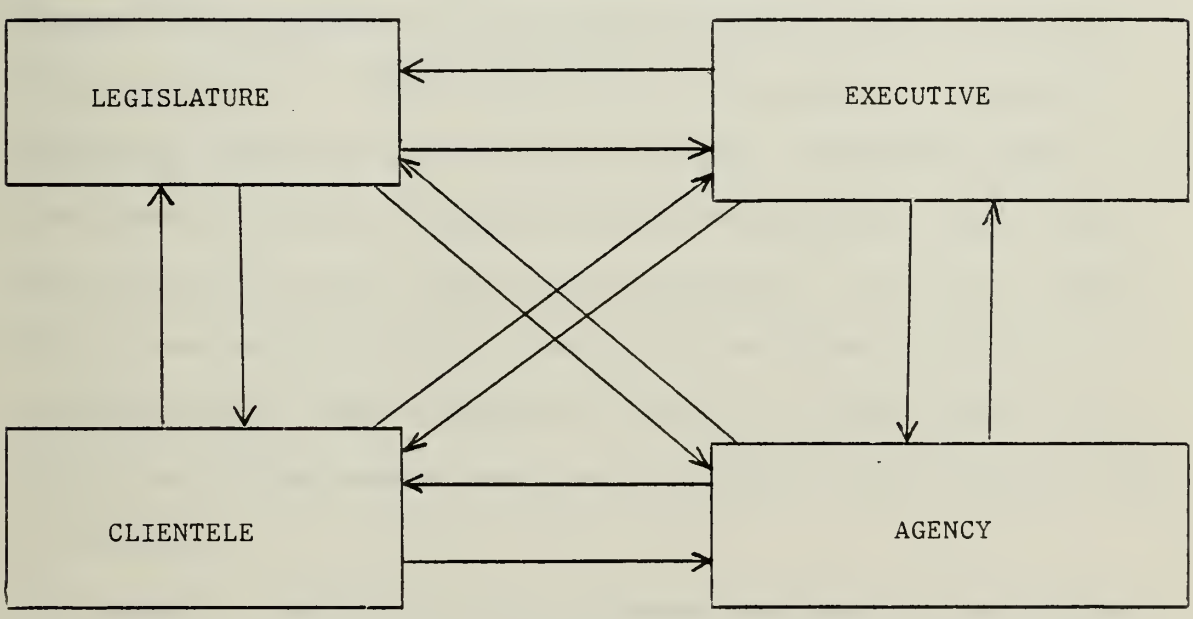
Both democracy, stressing public participation in the policy-making function, and the debate over capitalism, involving Government's proper role in society, are key ideologies underlying the development

of Government patent policy in the legislative process.

2. Institutional Roles

The second area of importance in analyzing the Congressional policy-making process concerns the political influence patterns among its participants. The concept can best be understood in terms of four institutional roles, each with a definable behavior. Figure III-1 displays the interrelationship among the four groups.

Figure III-1



The four institutional roles are: [Ref. 15]

1. The agency - the institution or department responsible for managing the programs authorized by Congress.

2. The executive - loosely defined as the chief executive and his or her staff.

3. The legislature - the legislative branch of Government, Congress.

4. The clientele - a group affected by the agency's programs, and which takes an active interest in the agency's policy.

The double lines shown in Figure III - 1 represent several two-way influence patterns. The agency influences the executive through its program request (e.g., R & D funding) and the executive's decision is one form of executive influence on the agency. The executive influences the legislature in its executive budget requests, and the passage of laws is a formal influence on the executive. The agency's programs by definition impact on the clientele. Clientele groups, widely known for their lobbying efforts with legislators, also lobby and influence the chief executive and the agency. A less will known fact is that the legislators and executives can directly influence clientele groups. Added complexity arises from the fact that an influence pattern may involve more than two groups. Lynch explains such a situation:

> For example, a clientele group influences Congress on appropriation legislation which ultimately becomes law, and then the agency is influenced by the language of that appropriation legislation. [Ref. 15]

The above point illustrates how the legislative activity of Congress, with respect to acts authorizing the creation and funding of new Government agencies, must include some recognition of the views of the other interacting groups. This key point carries through in subsequent

discussions of agency statutes which attempt to define Government patent policy.

C. GOVERNMENT PATENT POLICY IN AGENCY STATUTES

Due to its failure to enact a uniform Government patent policy bill after World War II, Congress adopted another vehicle for legislating its intent. The legislators began incorporating patent policy provisions into authorizing legislation for individual agencies and departments; in effect, establishing policy with respect to inventions arising from Federally-funded R & D contracts on an act-to-act basis. [Ref. 16]

1. National Science Foundation Act of 1950

The first such specific statement of a Congressional patent policy in relation to Government contracts is set forth in section 12(a) of the National Science Foundation Act of 1950:

> Each contract or other arrangement executed pursuant to this Act which relates to scientific research shall contain provisions governing the disposition of inventions produced thereunder in a manner calculated to protect the public interest and the equities of the individual or organization with which the contract or other arrangement is executed: Provided, however, that nothing in this Act shall be construed to authorize the Foundation to enter into any contractual or other arrangement inconsistent with any provision of law affecting the issuance or use of patents. [Ref. 17]

This act did not provide for any specified vesting of rights in inventions in either the Government or the contractor. Rather it did require that each contract or funding arrangement executed pursuant to the Act relating to scientific research "contain provisions governing disposition of inventions in a manner calculated to protect the public interest and the equities of the individual or organization with which the contract" was made. (Emphasis added).

The legislation clearly gives the Foundation latitude in establishing its patent policies. In addition, the wording appears "to reject the contention that the Government should, as a matter of course, take title to any inventions arising out of federally financed research." [Ref. 16] In fact, the agency was given the type of latitude in making policy which could be defined as a new separate school of thought in the Government patent policy debate. Advocates of such a "flexible policy" seek to soften the absolute stand of agencies practicing at the opposite extremes of "license" and "title" theory. [Ref. 2]

2. Atomic Energy Act of 1954

The second venture by Congress into the patent policy field involved the Atomic Energy Act of 1954. Those provisions of the Act relating specifically to the patent rights of the Government state:

> Inventions Conceived During Commission Contracts - Any invention or discovery, useful in the production or utilization of special nuclear material or atomic energy, made or conceived under any contract, subcontract, arrangement, or other relationship with the Commission, regardless of whether the contract or arrangement involved the expenditure of funds by the Commission, shall be deemed to have been made or conceived by the Commission, except that the Commission may waive its claim to any such invention or discovery if made or conceived by any person at or in connection with any laboratory under the jurisdiction of the Commission as provided in section 33, or under such other circumstances as the Commission may deem appropriate. No patent for any invention or discovery, useful in the production or utilization of special nuclear material or atomic energy, shall be issued unless the applicant files with the application, or within 30 days after request therefor by the Commissioner of Patents, a statement under oath setting forth the full facts surrounding the making or conception of the invention or discovery described in the application and whether the invention or discovery was made or conceived in the course of, in connection with, or under the terms of any contract, subcontract, arrangement, or other relationship with the Commission, regardless of whether the contract or arrangement involved the expenditure of funds by the Commission. The Commissioner of Patents shall forthwith forward copies of the application and the statement to the Commission.

"The Commissioner of Patents may proceed with the application and issue the patent to the applicant (if the invention or discovery is otherwise patentable) unless the Commission, within 90 days after receipt of copies of the application and statement, directs the Commissioner of Patents to issue the patent to the Commission (if the invention or discovery is otherwise patentable) to be held by the Commission as the agent of and on behalf of the United States.

"If the Commission files such a direction with the Commissioner of Patents and if the applicant's statement claims, and the applicant still believes, that the invention or discovery was not made or conceived in the course of, in connection with, or under the terms of any contract, subcontract, arrangement, or other relationship with the Commission to take title to the application or the patent, the applicant may, within 30 days after notification of the filing of such a direction, request a hearing before a Board of Patent Interferences. The board shall have the power to hear and determine whether the Commission was entitled to the direction filed with the Commissioner of Patents. The Board shall follow the rules and procedures established for interference cases and an appeal may be taken by either the applicant or the Commission from the final order of the Board to the Court of Customs and Patent Appeals in accordance with the procedures governing the appeals from the Board of Patent Interferences.

"If the statement filed by the applicant should thereafter be found to contain false material statements any notification by the Commission that it has no objections to the issuance of a patent to the applicant shall not be deemed in any respect to constitute a waiver of the provisions of this section or of any applicable civil or criminal statute, and the Commission may have the title to the patent transferred to the Commission on the records of the Commissioner of Patents in accordance with the provisions of this section. [Ref. 18]

"Federally Financed Research - Nothing in this Act shall affect the right of the Commission to require that patents granted on inventions, made or conceived during the course of federally financed research or operations, be assigned to the United States. [Ref. 18]

This legislation gave the Atomic Energy Commission (AEC) responsibility for overseeing R & D activities aimed toward furthering the peaceful uses of atomic energy by entering into contracts for such research. Those sections of the statute set forth above represent the Congressional view that no company should be able to obtain a monopolistic

or dominate position in this new field of technology by virtue of performing under Government R & D contracts. Nash and Lasken note this point:

> This view was based on the belief that because the field of atomic energy was a new field which had been developed almost entirely through the expenditure of Government funds, the equities required the Government to follow a policy that would assure that equipment in this field was available to private or public users on a competitive basis. In this situation, it was the view of Congress that this heavy investment in the field of nuclear technology overrode the general concept that inventions are brought to practical use more quickly and efficiently through the granting of a patent to the inventor. [Ref. 16]

This statute also introduced a unique concept into the Government patent policy controversy. Section 152 quoted above gave the Atomic Energy Commission power to "waive" patent rights "under such circumstances as the Commission may deem appropriate." This broad range of authority granted the Commission considerable flexibility to alter its patent policy in cases where vesting title in the Government would not serve the broad public policy interests of the Government. It thus might be argued that section 152 of the Act does not stipulate that the Commission follow a strict title policy. In the final analysis, however, the section was, at a minimum, "designed to facilitate such a policy by deeming the invention to have been made by the Commission unless the Commission waives its claim." [Ref. 16] In such a situation the Government is accorded either title to any inventions arising from contract work or discretionary control over the disposition of title. [Ref. 8]

3. National Aeronautics and Space Act of 1958

Following somewhat the same prescription it had used in Atomic

Energy Act of 1954, Congress tailored the statutory framework establishing the National Aeronautics and Space Administration (NASA) to include a provision that any invention made in the performance of an agency contract would be the exclusive property of the Government. [Ref. 12] Section 305 set forth the Administration's property rights in inventions:

> Sec. 305. (a) Whenever any invention is made in the performance of any work under any contract of the Administration, and the Administrator determines that--
>
> (1) the person who made the invention was employed or assigned to perform research, development, or exploration work and the invention is related to the work he was employed or assigned to perform, or that it was within the scope of his employment duties, whether or not it was made during working hours, or with a contribution by the Government of the use of Government facilities, equipment, materials, allocated funds, information proprietary to the Government, or services of Government employees during working hours; or
>
> (2) the person who made the invention was not employed or assigned to perform research, development, or exploration work, but the invention is nevertheless related to the contract, or to the work or duties he was employed or assigned to perform, and was made during working hours, or with a contribution from the Government of the sort referred to in clause (1),
>
> such invention shall be the exclusive property of the United States, and if such invention is patentable a patent therefor shall be issued to the United States upon application made by the Administrator, unless the Administrator waives all or any part of the rights of the United States to such invention in conformity with the provisions of subsection (f) of this section. [Ref. 19]
>
> (f) Under such regulations in conformity with this subsection as the Administrator shall prescribe, he may waive all or part of the rights of the United States under this section with respect to any invention or class of inventions made or which may be made by any person or class of persons in the performance of any work required by an contract of the Administration if the Administrator determines that the interests of the United States will be served thereby. Any such waiver may be made upon such terms and under such conditions as the Administrator shall determine to be required for the protection of the interests of the United States. Each such waiver made with respect to any invention shall be subject to the reservation by the

> Administrator of an irrevocable, nonexclusive, nontransferrable, royalty-free license for the practice of such invention throughout the world by or on behalf of the United States or any foreign government pursuant to any treaty or agreement with the United States. [Ref. 19]

It required that any invention made in the performance of contract work would "be the exclusive property of the United States." Furthermore, as was the case with the AEC, the NASA Administrator was also given the power to waive the Government's rights to inventions if he determined that "the interests of the United States will be served thereby." Congress had coupled a strict title policy with a broad grant of discretionary power to the Administration to alter that power.

Nash and Lasken note that the rationale for NASA's patent policy was not as clear as that found in the AEC Act:

> The patent provisions of the National Aeronautics and Space Act were inserted very late in the legislative process. Thus, there were no hearings on these provisions, and they are not reflected in the committee reports on the statute. It is clear that the Congressional proponents of the title policy had become more vocal at this time and that there was a general belief that the technology of space might be similar to the technology of atomic energy in terms of applicable Government patent policy. [Ref. 16]

The Space Act was designed to cover all inventions made in the performance of R & D work for NASA. Unlike the Atomic Energy Act, no provision was made for so-called "outfield" inventions. The Space Act was, in effect, "the first one hundred percent 'title policy' law." [Ref. 3]

Early experience in exercising the waiver powers provided to NASA were disappointing. The Administration itself interpreted this provision to mean that it could not agree, at the time of contracting, that the contractor could acquire title to all inventions which he or she

might make in the performance of work under the contract, even-though the scope of work might be in the contractor's special field of commercial products. As Shelton explains, this resulted in a reluctance on the part of industry to contract with NASA, a reluctance which the AEC had not experienced because it did not take title to 'outfield' inventions." [Ref. 3]

D. RENEWED CONGRESSIONAL INTEREST IN A UNIFORM PATENT POLICY

The difficulties experienced by NASA in attracting qualified research contractors led the House Subcommittee on Patents and Scientific Inventions to hold extensive hearings on the subject in 1959. The testimony presented overwhelmingly favored a change in the Space Act's original patent provisions. [Ref. 3] NASA recommended that its Administrator be given authority to incorporate provisions in research contracts "governing the disposition of rights to inventions. . . in a manner calculated to protect the public interest and the equities of the contractor." [Ref. 20] The Administrator would therefore be able to determine which patent provisions best served the interests of NASA, the contractor, and the general public. Enactment of this provision was endorsed by the Department of Defense. [Ref. 20]

The House subcommittee reported its findings in March 1960, and recommended that the Space Act patent provisions be amended in accordance with the NASA proposal. The report stated that NASA should take "only so much of the property right in inventions and patents thereon as may be necessary to fulfill the requirements of Government and to protect the public interest." [Ref. 20] The subcommittee went so far

as to outline specific elements favoring either a strict "title" or "license policy" to be applied by the Administrator at the time of contracting. It is worthy, however, to note that the subcommittee did not attempt to address the problem of Government-owned patents which failed to achieve commercial utilization due to the absence of exclusive rights under it. The question was merely alluded to as follows:

> NASA may wish to affect a dedication of the invention to the public where the invention sought will provide universal benefits for mankind or have crucial meaning for the Nation's security; in such cases, dedication might obviate the risk of excessive costs or the danger of nondevelopment by a private owner. [Ref. 20]

The amendment proposed by the subcommittee easily passed the House, but no action was taken in the Senate. In the following Congressional session hearings were again held. The subcommittee reached conclusions similar to those outlined above, and again recommended amending the patent provisions of the Space Act. No action was ever taken on the recommendations by either the House or Senate. [Ref. 3]

A similar environment regarding legislative initiatives aimed toward establishing a uniform patent policy for Government R & D contracting existed in the Senate during the late 1950's and early 1960's. In December 1959 a Senate subcommittee chaired by Senator Russell Long of Louisiana held hearings on patent policies of Government agencies. The testimony presented a situation characterized by a lack of uniformity in determining patent rights to inventions conceived under Government contracts. [Ref. 12] A small number of agencies routinely took title to patent rights. They included the Atomic Energy Commission, Department of Agriculture, Interior Department, and NASA. The majority

of agencies, on the other hand, secured only a royalty-free, non-exclusive license to use contract inventions. While expending the bulk of research of development funds, such agencies were permitting R & D contractors to retain title to inventions. This "license" policy, followed by the Department of Defense, was the antithesis of what Senator Long envisioned to be a proper Government patent policy:

> This policy will bestow unearned monopolies throughout the country. These monopolies will restrict competition and force the public to pay high prices for new products which would be sold more cheaply if competitors were allowed in the field. [Ref. 21]

Defense Department witnesses defended their "license" policy by arguing that the agency's mission did not include administering patent rights vested in the Government. In addition, as but one competitor in the market for scientific talent available in the private sector, the Department expressed its firm belief that a patent policy which vested title to inventions in the contractor was essential as an incentive to secure the services of technically competent organizations. Ultimately, no legislative proposals were forthcoming as a result of these hearings. [Ref. 12]

The Congress had displayed a rejuvenated interest in the Government patent policy area. Committee hearings had served as the forum for agency representatives, contractors involved in Federal research work, and prominent members of Congress to present their opinions. The result of this interaction, Quesenberry notes, was a realization that "as the legislative process continued to flounder in the waves of antipodal and unbending philosophies, the ability of Congress to bring uniformity to the potpourri of agency treatment of patent rights became more and more doubtful." [Ref. 2]

E. SUMMARY

The period from 1950 through the early 1960's was characterized by ineffective, piece-meal attempts to develop a uniform Government patent policy through the lawmaking process. The dynamcis of the process brought together three distinct groups: the legislature, the agencies, and the clientele group of research ccntractors. Each group recognized that the interests of all would be best served by a patent policy based on uniformity. However, resolving the issue would require a reconciliation of two extreme positions: Government-take-all (title policy) contractor-take-all (license policy).

The failure on the part of Congress to enact comprehensive legislation supporting this common goal, uniformity, would lead to a shift in responsibility to the remaining participant in the policy-making continuum, the Executive Branch itself. Chapter IV will now address that issue.

IV. EXECUTIVE BRANCH POSITION

A. GENERAL

This chapter introduces the significant efforts made within the Executive Branch to formulate a patent policy reflecting true uniformity for all Government agencies. In 1953, total Federal expenditures for the performance of research and development in the United States totalled 2,735 million dollars, and represented 54 percent of the entire national effort. By 1963, the Government's commitment to R & D funding had increased to 11,204 million dollars, or 65 percent of aggregate national spending in that area. [Ref. 1]

In June 1953, the Federal Government owned outright a total of 4,061 inventions covered by unexpired patents under the administrative control of the various agencies involved in supporting R & D activities. By 1955 that total had increased to 5,203. Estimates made in September 1960 indicated that the Government then owned approximately 12,000 inventions covered by active patents. [Ref. 22]

The above statistics amply illustrate the steady growth not only in the amount of Federal funds being expended in R & D activities, but also in the vast resources of technical knowledge held by the Government in the form of unexpired patent rights to inventions developed in performance of its contracts. During the decade ending in 1963, concern with the implication of the above trends had produced a need for the Executive to attempt to resolve the patent policy controversy which heretofore had been a Congressional responsibility.

B. KENNEDY POLICY STATEMENT - 1963

In 1962, President Kennedy tasked his Special Assistant for Science and Technology with bringing together the views that had been expressed to him from the Congress, industry representatives, and from Government agencies concerning the lack of uniformity with respect to patent policies. The President recognized that this subject had engendered significant controversy in past years, but felt confident responsible Government could develop a sound policy that accomodated the diversity of public interests involved. [Ref. 2]

Based on the findings presented to him, on October 10, 1963 President Kennedy issued a Memorandum to the Heads of the Executive Departments and Agencies on Government Patent Policy. [Ref. 23] Attached to this document was a statement of that policy. A copy of the Kennedy statement, as it came to be known, is provided in Appendix A.

The Presidential policy statement was issued for two explicit purposes: (1) to establish a reasonably consistent Federal patent policy, and (2) to promote commercial utilization of inventions produced under Government R & D contracts. [Ref. 24]

Quesenberry notes that the policy statement recognized four basic concepts which must apply to a Government-wide patent policy: [Ref. 2]

1. Greater consistency is needed throughout the Government in the acquisition of patent rights even though a completely uniform practice is not feasible due to differences in agency missions and statutory responsibilities.

2. A single "across-the-board" title or license policy is not the answer to this difficult problem.

3. In order for the public to benefit from inventions derived from Government-sponsored R & D, the inventions must be developed, exploited, placed before the public, and used.

4. Agency determinations regarding the disposition of rights should be made as early as practicable, preferably at the time of contracting.

Under the policy guidelines, agencies were to acquire title ("take principal or exclusive rights") to all inventions where the major purpose of the contract is: [Ref. 9]

1. To produce commercial results.

2. To explore fields directly concerned with public health and welfare.

3. In a field primary developed by the Government.

4. For contractor operation of Federally-owned plants for Government.

Agencies were authorized to leave title with the contractor when the purpose of the contract was to build upon existing technology in a field in which the contractor had not only developed technical competence, but also had established a commercial position in that or a related field of technology. If the contractor did not have an established commercial position, the determination of rights was to be deferred until after an invention had been identified. Agencies were, however, permitted to define by regulation "special situations" in which contractors lacking an established commercial position might be

permitted to take title to an invention at the time of contracting. In addition, in exceptional circumstances the contractor could receive title at the time of contracting to inventions "normally" acquired by the Government, if the agency head certified that such an action would best serve the public interest. [Ref. 2]

Finally, contractors could be granted title to an invention identified during contract performance if the agency head found that the invention was not the primary object of the contract, and vesting title in the contractor was required to achieve commercialization. [Ref. 2]

In all situations in which the contractor received title to inventions, the Government would acquire "at least an irrevocable, nonexclusive, royalty-free license." Furthermore, in such cases the Government also would retain certain "march-in" rights to prevent a contractor from sitting on his patent rights and failing to actively promote commercialization of the invention. [Ref. 16]

Quesenberry summarizes that impact of the Kennedy policy statement:

> Essentially what had emerged from this effort by the Executive Branch was a rationalization of existing practices by reference to criteria which had been tailored specifically to justify the policies of the different agencies. It was described by some as appearing on its face to be a case of "all things to all people." However, it did provide a basis for bringing the extremes of agency practices a little closer together. . . it was at least the first attempt at taking the bull by the horns by any of the branches of government since federal agencies began contracting out research and development over one hundred years before. Nonuniformity practiced with consistency is not much of an accomplishment, but it is more than the Congress has been able to achieve over the years and is certainly better than nothing. (Ref. 2]

Following the issuance of the Kennedy statement, the major R & D agencies promulgated separate regulations which, to a considerable extent, adopted the President's policy. The remaining agencies, those

performing only a small amount of R & D under contract, either adopted patent rights clauses based on the President's Memorandum or, a number of years later, issued regulations under the policy statement.

It is significant to note that there was no overall patent regulation which would serve the majority of Federal agencies, such as the Federal Procurement Regulations (FPR), to implement the 1963 Presidential patent policy statement. As a result the patent provisions actually used by Government agencies varied widely. [Ref. 25]

C. GOVERNMENT PATENT POLICY REPORTS

In the five year period following issuance of the 1963 Presidential patent policy statement several extensive reports on the subject were published. A review of the findings and conclusions will highlight not only the impact of the 1963 policy statement, but also the broader implications of Government patent policy regarding contractor cooperation and commercialization of inventions.

1. The Holst Report - 1963 [Ref. 26]

Completed less than two months after the President's statement in October 1963, this study focused on three major areas: a. the impact of Government patent policy on the availability and cooperation of organizations with the Government; b. the effect of patent policies on the use of private, proprietary technology in work for the Government, and c. the likelihood of wider use of technology developed on work for the Government in civilian applications which benefit the public. [Ref. 26]

The study was based on responses to questionnaires sent to small, intermediate, and large contractors who provided over 10 billion dollars of annual procurement to the Government. Their percentages of work for the Government to total sales, ranged from very small to 100 percent. The firms represented a total work force of over two million employees with supporting plant and equipment.

The results of the survey indicated that patent policy is a significant factor in discouraging responsible, competent organizations with substantial backgrounds of experience and proprietary rights from bidding on Government work. When asked, "Have you actually refrained from bidding on Government work for any agency because of its patent policies?", 56 percent answered affirmatively. This reply, Holst noted, "refutes the easy assumption by those who maintain that no matter what the policy, bidders will take Government contracts." [Ref. 26]

The author then concludes that one major consideration of public interest, securing the most helpful assistance on primary Governmental problems, is not being fulfilled. The reason for this reaction by contractors was found to be that when they undertake R & D work for the Government, they do so in the hope and expectation that the Federally-sponsored R & D will provide an opportunity for follow-on production. In support of this goal, it is to be expected that the contractor will seek to retain the patent rights to inventions arising during contract performance. Where such patent rights are important to the company, as 92 percent of the respondents indicated they were for their commercial position, the nonavailability of rights will deter that company from seeking contracts with the Government. [Ref. 27]

The report indicates that a secondary objective of Government patent policy should be securing widespread public use of resulting inventions. Holst notes that for this to occur requires a. that new developments be communicated as promptly and effectively as possible to potential users; and b. that there be some incentive for further effort and commitment of resources by the private sector to achieve commercialization of inventions. [Ref. 27]

The author concludes that it is in the Government's best interests to employ a patent policy of "leaving ownership of inventions and technology with those who originate them." [Ref. 26]

2. NASA Experience Under the Kennedy Policy - 1966 [Ref. 24]

This study, authored by Dr. Robert Solo, deals with Federal policy in promoting inventiveness and the disclosure of inventions under Government-sponsored R & D, and with aspects of the transfer into commercial uses of technologies developed through such special purpose Government-sponsored R & D. The first part of the study covers the evolution of a patent policy for inventions made under Government-sponsored R & D. The second part examines the experiences of NASA's operation under the policy, and the third part presents policy recommendations.

In the first part, Dr. Solo asserts that the Presidential Memorandum issued in 1963 has two explicit purposes: a. to achieve a sufficiently consistent Federal patent policy, and b. to promote the commercial utilization of inventions produced under Government R & D contracts. [Ref. 24] He suggests, however, that the criteria determinative of

whether the contractor or the Government receives the principle patent rights are so equivocal as to be valueless in accomplishing the first purpose. With regard to the second purpose of promoting commercialization, the author notes that under the Memo the grant of principle rights to the contractor is conditioned on the proven commercial application of the invention or of an effort to so develop the invention within three years. Here too, however, the study finds the wording of the Presidential statement is "so equivocal that the intention may be nullified in practice." [Ref. 24]

In the second part, the author defines NASA inventions as comprising two sets, both drawn from the same store of technology. The first are those produced by private contractors and offered to the public for non-exclusive, royalty-free licensing. The other set consists of inventions where the exclusive rights have been waived to the R & D contractors who produced them. By studying NASA records relative to these two classes of inventions, Dr. Solo attempts to discover the "inventiveness" of NASA employees relative to contractor employees. The results indicated that the output of inventions per scientist and engineer is almost exactly the same for NASA employees as it is for R & D contractors. He next explores the relation of Government R & D expenditures by those contractors during 1965 to the number of inventions produced. The findings showed such extreme differences and such random variations in company performance as to suggest to the author that the differences were attributable to company policies which actively discouraged invention disclosure. Lastly, he compares the relative cost per patent where private R & D funds are used with the

situation where Government money is used and finds approximately at 5:1 ratio. Based on this finding, he concludes that either inventions or inventive manpower are diverted away from Government programs; or that "inventiveness" is simply less where Government work is concerned. In addition, the study suggests that contractors do not as readily seek patent protection for inventions resulting from Federally-sponsored R & D for purely business reasons; that is, more profitable alternative opportunities exist. [Ref. 27]

Subsequent discussion of the rate of commercialization of NASA inventions begins with those that have been waived to contractors. Dr. Solo here concludes that the economy at large has not benefitted from such commercialization. With more than 15 billion dollars used to fund R & D contracts in the period 1959 - 1964, he found only six relatively unimportant inventions which had been used.

In situations where NASA retained title, a similar pattern was found. Offering inventions for nonexclusive royalty-free licensing was just as unproductive. In view of the evidence, he states:

> The strongest impression to be gotten from an examination of the record of waived invention is of the indifference (author's emphasis), the general, pervasive, sometimes the absolute indifference on the part of the contractor to the commercial potentialities of inventions made under Government R & D contracts. [Ref. 24]

In part three of his study, Dr. Solo presents recommendations aimed toward increasing inventiveness and commercialization. They include: [Ref. 27]

a. Use of a company's past record of inventiveness and inventive contribution as one of the criteria to be considered in awarding

NASA R & D contracts.

b. Establishing a direct invention reporting system between contractor inventors and NASA.

c. Strict enforcement of "march-in" rights to ensure that any exclusivity granted to contractors can be promptly voided at the end of the stipulated time period unless there is clear evidence of an attempt by the contractor to achieve some sort of commercialization.

3. The Harbridge House Report - 1968 [Ref. 11]

The Harbridge House Report deals with the impact of Government patent policy on several aspects of the national economy. It was commissioned as an initiative of the Committee on Government Patent Policy of the Federal Council on Science and Technology (FCST) in September 1966. The study was performed by Harbridge House, Inc., a research and management consultant firm from Boston, Massachusetts. The final report was submitted in May 1968.

The study considered three questions which represented the fundamental patent policy issues:

1. How does patent policy affect commercial utilization of Government-sponsored inventions?

2. How does patent policy affect business competition in commercial markets?

3. How does patent policy affect participation of contractors in the Government's research and development programs?

Data was collected and analyzed in order to test the effects of alternative patent policies; lead to affirmation or revision of the President's Policy or aid in formulating legislation; and be useful to

to the executive agencies in administering their policies.

The effect of patent policy on commercialization was approached by trying to determine whether permitting contractors to retain exclusive rights would, on balance, promote utilization of inventions better than acquisition of title by the Government. The study data indicated that this would indeed be true, at least in the following circumstances:

(i) Where the inventions as developed under government contracts are not directly applicable to commercial uses and the inventing contractor has commercial experience in the field of the inventions. This occurs most frequently with DOD, NASA and AEC inventions. In the case of DOD, the fact that it does not actively promote commercial use of its patents is an added factor. In these instances the inventing contractor with commercial experience appears to be the logical candidate to attempt utilization either directly or by licensing others; and

(ii) Where the invention is commercially oriented but requires substantial private development to perfect it, applies to a small market, or is in a field occupied by patent sensitive firms and its market potential is not alone sufficient to bring about utilization. Inventions in this category may arise with any agency and may have had only limited government development toward a commercial application. (Ref. 11)

Insofar as the effect of patent policy as it existed at that time competition appeared not to have been adversely influenced. The following reasons were cited in support of this finding:

(i) The rate of utilization of government inventions has been low.

(ii) The agencies - such as TVA and Agriculture, whose inventions are most likely to be utilized--either developed them in-- house or took title to them developed under contract.

(iii) And industrial owners of government-sponsored inventions have been willing to license them upon request or, where they were unwilling to license, alternative technologies are available to competitors in the great majority of cases. [Ref. 28]

The final area addressed in the study, the effect of Government

patent policy on industry participation in Federally-sponsored R & D programs, produced little in the way of substantive findings. Several first-order effects of policy were defined. Industry's main concern regarding participation in Government research has been the compromise of private investment in research and invention. However, the key to the participation question apparently "lies in the attitude of prospective contractors toward the role of patents in their activities." [Ref. 28] The study identified a number of different attitudes, and the effect of patent policy on participation depended on the particular company's attitudes and on the nature of the R & D work to be performed. The report concluded:

> However, this does not mean that either a title or license policy will equally serve the government's interests under all the above circumstances, since the policy selected may also affect industrial decisions to use contract inventions commercially. Here again, a balancing of government objectives appears necessary to ensure that the net effect of the patent policy promotes the government's overall goals. [Ref. 28]

4. Federal Council for Science and Technology Report - 1968 [Ref. 11]

This report is an evaluation made by the Federal Council for Science and Technology's (FCST) Government Patent Policy Committee of the results and conclusions of the Harbridge House Study and their application to the 1963 Presidential patent policy statement. In general, the Committee found that the study results provide no basis for changing the basic principles of the President's policy. They did, however, indicate several areas where modification in the "criteria" would be appropriate. The study did, in particular, confirm the

statement in the Presidential policy that "a simple presumption of ownership does not provide a satisfactory basis for government-wide policy on the allocation of rights to inventions."

The Committee reached the conclusion that rights to inventions made under Government contracts, where not otherwise required by statute, should be allocated according to a flexible, Government-wide policy following the basic principles and criteria of the Kennedy statement. This conclusion was based on the fact that:

> (1) The Presidential Policy was based on years of actual operating experience under various policy criteria;
> (2) Experience under the Policy to date indicates that it has been effective in bringing about a greater degree of consistency in the patent policies and practices of the agencies, and has provided a greater degree of protection of the public interest; and
> (3) The Harbridge House study results and the operating experience of the government agencies indicate that the principles underlying the Presidential Policy, and, with minor exceptions, the criteria established by this Policy for allocating patent rights--
>
> Take into consideration the several factors found to influence utilization of invention, participation by industry, and commercial competition in a manner which balances the overall interests of the public.
>
> Provides the necessary operational flexibility needed by the agencies to accomplish the objectives of their missions under differing contractual circumstances, and
>
> Within the differing mission constraints of the federal agencies, promotes consistent application of patent policies and practices in similar contracting situations. [Ref. 11]

Finally, the Committee recommended continuation of the "flexible" policy in effect, either by making minor modifications to the 1963 Presidential policy, subject to current statutory requirements, or by proposing legislation based on similar principles and criteria which would be applicable to all departments and agencies conducting R & D activities.

D. NIXON POLICY STATEMENT - 1971

As previously stated, the 1963 Presidential statement on Government patent policy carried with it two distinct purposes. The primary purpose was the establishment of a reasonably consistent patent policy for the entire Federal sector. Implementation by individual agencies was accomplished by either verbatim adoption of the policy statement, or through incorporation of its principles into regulations promulgated thereafter. By the late 1960's, at least, agency regulations and practices had been restructured to conform to the Kennedy guidelines. Thus, "consistency" of practice among differing policies, or the connotation thereof, had been achieved. [Ref. 2]

Agency concern then shifted to an appraisal of the second purpose of the Presidential statement, commercial utilization of inventions. As described in the study of NASA experience, this area would be found wanting in most agencies. Those few inventions being utilized were products and processes which could be readily adapted to commercial use, and likewise required no further development for entry into the marketplace. Though it encouraged commercialization, the Kennedy statement lacked the explicit direction necessary to shift agencies away from the established practice of making inventions available on non-exclusive or implied license bases. [Ref. 2]

During the latter part of the Johnson administration, a revised statement aimed at correcting the shortcomings of the Kennedy policy statement was submitted for White House approval. This proposal was tailored in agreement with the recommendations presented by the FCST

Committee on Government Patent Policy in its 1968 study outlined above. This restatement was eventually issued by President Nixon in August 1971 as a new Memorandum and Statement of Government Patent Policy. [Ref. 29] A copy of the statement in provided in Appendix B.

The Nixon memorandum attributes the degree of commercial untilization of Government-funded inventions, commercial competition, and participation of industry in Government R & D to several important factors. These include the mission of the contracting agency; the purpose and nature of the contract; the commercial applicability and market potential of the invention; the extent to which the invention is developed by the contracting agency; the promotional activities of the contracting agency; the commercial orientation of the contractor; the extent of his privately financed research in the related technology; and the size, nature, and research orientation of the pertinent industry.

The revised policy affirmed that "a flexible, Government-wide policy best serves the public interest." Heads of agencies and departments were given additional authority to grant ownership or exclusive use to contractors when deemed necessary to create an incentive for follow-on development and marketing. This point is a recognition that certain inventions would never reach the marketplace unless some period of exclusivity was provided for the developer to recoup his private investment. Ownership or exclusive use to such inventions could also be granted the contractor when the Government's investment is small in relation tc that made by the contractor. It is significant to note

that this authority included title to inventions which were the primary objects of the contract effort.

The Nixon statement also specifically encourages licensing of Government-owned inventions in an effort to promote utilization. Agencies were given authority to grant an exclusive license on some inventions where necessary as an incentive for commercialization. Furthermore, the General Services Administration was tasked to issue comprehensive patent licensing regulations to implement this policy.

In cases where the contractor received title to an invention, the scope of the license acquired by the Government was now more definitive. The nonexclusive, nontransferable, paidup license to make, use and sell the invention by or on behalf of the Government was extended to state and municipal governments as well.

The final change required agencies and departments to record their actions on the disposition of invention rights and licensing practices. This provision was established for purposes of evaluating the administration and effectiveness of the policy and the desirability of further refinement or modification thereof. [Ref. 29]

E. REPORT OF THE COMMISSION ON GOVERNMENT PROCUREMENT - 1972

The growth in research and development expenditures by the Federal sector following World War II was but a small representation of the more impressive rise in total Government procurement spending which had occurred. The attendant problems caused by the patchwork of laws

directives, and regulations which evolved to cope with the unique needs of the acquisition environment led to the creation of the Commission on Government Procurement by the Ninety-first Congress. The Commission was tasked to devise fundamental improvements in the Government's procedures for purchasing the goods and services it required. It its report issued in December 1972, the Commission made several recommendations concerning Government patent policy. [Ref. 30]

Responsibility for developing the Commission's position on Government patent policy fell to Study Group #6-- Pre-Contract Planning. In their subsequent report to the Commission, the Study Group states:

> It is a basic premise of the discussion that follows that the Government's patent policies should optimize participation by private concerns in Government-sponsored research and development and should maximize the utilization of the resulting technology with minimal anti-competitive consequences in the marketplace. [Ref. 31]

After reviewing the history of patent policy, including the Nixon memorandum issued only months before, the Group identified a number of problems with current patent policies in R & D: [Ref. 31]

1. Statutory requirements and regulations implementing the Presidential statements create complex administrative burdens for both the Government and its contractors. In addition, inconsistency between agencies results in a lack of predictability of administrative action.

2. Those agencies required by statute (e.g., AEC and NASA) to acquire title to inventions are precluded from identifying those inventions in which title should properly be retained by the contractor to foster commercial utilization.

3. Some contractors refuse to participate in Federal R & D programs when they are denied exclusive patent rights to resulting inventions.

4. In many instances the purpose of the contract or the mission of the agency becomes the overriding factor in determining allocation of rights to inventions resulting from Government R & D, rather than being just one of the factors to be considered.

5. Many of the factors identified in the Nixon statement as influencing utilization, competition and participation have little relevance prior to making of the invention and are of questionable benefit in determining the allocation of rights at the time of contracting. Furthermore, a number of the factors are not relevant until some attempt is made to commercially exploit the invention. The report summarized the effect of the above factors:

> In our view, neither the Government nor the contractor can normally predict, at the time of contracting, the type of invention likely to result from the contract. Seldom can the need for a patent incentive to further an invention's development and marketing be seen at this early stage. Nor is it possible to predict the anti-competitive effect likely to result if the contractor acquires exclusive rights to an item yet to be invented. Thus the requirement that determination of patent rights be made at the time of contracting strikes us, because of the absence of relevant facts, as unnecessarily burdensome and ineffective. [Ref. 31]

As an alternative to allocation of rights to inventions during the contracting phase of R & D acquisition, the Study Group recommended a patent policy which would provide for a single presumption of ownership of patent rights. [Ref. 31] At the time of contract signing, the contractor is granted the initial option to obtain exclusive patent in all inventions resulting from the contractual effort. These exclusive rights would be limited to an initial three-year period, with provision for extension if the contractor or his licensee(s) has achieved, or is about to achieve, commercial utilization of the invention. Failure to

commercialize within the three-year period would result in revoking the exclusive rights, or making the patent otherwise available for licensing on either a nonexclusive or exclusive basis.

Decisions at the end of the three-year period would be the responsibility of a Government patent policy review board (to be created), subject to judicial appeal. The board would act upon application by a Government agency or third party. Provision could also be made for an agency, prior to contracting, to request the board for authority to insert a patent clause giving the Government the first option to acquire exclusive rights to inventions when the contract is intended primarily for the development of inventions for public use.

In support of the above proposal, the Study Group developed the specific criteria to guide the board's decisions: [Ref. 16]

1. achieving the earliest practicable utilization of Government-assisted inventions in commercial practice;

2. encouraging, through the normal incentives of the patent system, private investment in the commercial realization of Government-assisted inventions;

3. fostering effective competition in the commercial development and exploitation of Government-assisted inventions;

4. insuring against the non-utilization of Government-assisted inventions and excessive charges for use of such inventions stemming from private ownership of patents on such inventions;

5. balancing the relative equities of the public, the inventor, and the patent owner or developer in specific Government-assisted inventions, measured by the investments necessary to bring the invention to the point of commercial application.

Finally, Study Group # 6 made the following recommendations regarding Government patent policy (emphasis found in the report): [Ref. 16]

1. All legislation pertaining to the allocation of patent rights among the Government and its contractors should be repealed and a uniform Government patent policy, applicable to all agencies and departments, should be enacted in their stead.

2. To administer patent policy there should be established, by appropriate legislation, a Government Patent Policy Review Board.

3. An inventing contractor should be granted the initial option to acquire exclusive commercial rights in his invention for a period of three years, subject thereafter to the licensing of third parties when such licensing is deemed by the Government Patent Policy Review Board to be in the public interest. The three year option would not be granted in cases where the Government plans to fund the development for commercial use of inventions made under Government contract.

The discussion of general patent policy considerations, the effect of Presidential statements, and the alternative of a Patent Policy Review Board created by legislative action were all incorporated into the "Report of the Commission on Government Procurement" delivered to Congress in 1972. [Ref. 30] It is significant to note, however, that Commission did not accept the first recommendation of Study Group # 6 presented above.

The Commission did note that "legislation with regard to the allocation of patent rights is far from complete." [Ref. 30] However, the report's first recommendation is to: "Implement the revised Presidential Statement of Government Patent Policy promptly and uniformly." [Ref. 30]

After reviewing the major policy revisions contained in the Nixon memorandum, the Commission states:

> The recent changes tc the Presidential policy were designed to overcome several shortcomings in that policy. Whether, in practice, these charges will fulfill their purpose remains to be seen, but we feel it is premature to disturb this latest effort by the President to achieve a workable patent policy. . . Any major departures in the patent rights area should be deferred until the revised policy has been evaluated by the Federal Council for Science and Technology in the light of actual agency practice.

The Commission's primary concern was that all Federal agencies incorporate Nixon guidelines in revising their acquisition regulations. In the case of those agencies required by statute to follow a "title" policy, the Commission stated a belief "that inconsistent legislation should be appropriately amended or repealed." [Ref. 16]

The review of patent policy by the FCST, referred to in the Commission's report, was completed in 1976. The findings of this review are presented in a following section.

Finally, it should be noted that responsibility for overseeing implementation of all 149 integrated recommendations presented by the Commission fell to the Office of Federal Procurement Policy (OFPP). Congress created OFPP in 1974 and charged that office with proposing implementation actions in the form of new or revised regulations, directives, and laws. [Ref. 4]

F. SUMMARY

With the issuance of the Nixon memorandum and the closely-following Report of the Commission on Government Procurement, the major effort by the Executive Branch to establish a uniform patent policy for

Federally-sponsored R & D contracting came to a close. Both the Kennedy and Nixon statements strove toward a goal of introducing "flexible" policies into the process in hopes of achieving "consistency" in rights determination within the separate agencies and departments. The goal of true uniformity in Government patent policy had not been realized.

Agency implementation of the patent policy found in the Nixon statement would be a major determinant of the need for future action in this area. Chapter V will describe the response of Federal agencies during the early 1970's, and the subsequent legislative initiatives leading to passage of the 1980 amendments to the U.S. patent and trademark laws.

V. PATENT AND TRADEMARK LAW AMENDMENTS OF 1980

A. GENERAL

In order to understand the events which would lead to the passage of the 1980 amendments to the patent and trademark laws, the author presents a chronological summary of the major developments concerning Government patent policy which followed the issuance of the Nixon statement. The interaction of the three branches of Government is illustrative of the complexity involved in establishing a uniform patent policy for Federally-sponsored research and development activities.

Implementation of the patent policy guidelines issued by the 1971 Presidential memorandum described in the preceding section was accomplished, albeit not in a routine manner, within the executive agencies. An objective appraisal of performance, however, required that several years pass during which data could be gathered regarding the allocation of rights to inventions by agencies and departments involved in sponsoring R & D carried on for the Government.

The lack of agreement between proponents of both the "title" and "license" schools of thought regarding rights to inventions made under Federally-sponsored contracts had not abated. In fact, a new group had formed which served to keep the traditional debate visible to members of Congress. The "consumer advocate" had now joined the controversy and fostered a renewal of Congressional interest in establishing a uniform Government patent policy. [Ref. 2]

The committment of Federal resources to the national research effort continued to represent more than one-half of the total annual expenditure. In 1974, for example, the Federal Government provided close to 17 billion dollars in R & D funds to private industry, universities and colleges, and other nonprofit institutions. [Ref. 1] The sheer magnitude of such annual financing, and the realization that numerous patentable inventions were being developed under the contracts involved, represented an investment in technical and scientific knowledge which aroused widespread public, as well as Congressional, scrutiny.

Finally, national concern with declining productivity and a lack of economic stability ultimately led to efforts to enact a Government patent policy aimed at stimulating innovation.

B. THE PUBLIC CITIZEN CASES

The 1971 Presidential statement had directed the General Services Administration (GSA) to issue regulations for the comprehensive licensing of Government-owned inventions. Following this directive, the Administrator issued an amendment to the Federal Property Management Regulations on January 29, 1973 regarding the licensing of Federally-owned inventions. [Ref. 32]

The validity of this regulation was challenged by Ralph Nader's Public Citizen, Inc. in a complaint filed in the U.S. District Court for the District of Columbia on April 25, 1973. The main allegation of the complaint was the exclusive licensing of a Federally-owned patent constituted a disposal of property belonging to the United States, without

the authorization of Congress, and therefore was in violation of the Constitution. Public Citizen, Inc. argued that the power "to dispose" should include the power to release or abandon an interest in Government property. It further contended that Government interest in a patent is affected by licensing in that an exclusive license leaves the Government with nothing to transfer to another party. The right of an exclusive licensee to sue infringers was also cited by Public Citizen, Inc. as creating a situation where the Government can no longer exclude others because it has given another the right to utilize its patent. [Ref. 2]

The Government's contention in the case was that the grant of an exclusive license, when severely limited in scope by the issued regulations, is not disposition but permissible utilization of Federal property. The District Court, however, found in favor of the Nader organization and directed the Administrator of GSA to take immediate steps to void the licensing regulations. This was accomplished by suspending the provisions of the patent licensing regulation on February 12, 1974. [Ref. 33]

Quesenberry notes that the purpose of the Public Citizen, Inc. legal battle was to establish "public ownership of Government-sponsored technology" as the sole alternative to Government patent policy. [Ref. 2] The regulations issued by GSA were used as a timely vehicle for moving the controversy within the jurisdiction of the courts. All Government-owned technology was considered to be public property. Any Government policy or practice which permitted patent rights to remain with Federal

R & D contractors was labeled as the "great give-away of public property." [Ref. 2]

A second complaint filed in District Court by Public Citizen, Inc. resulted from the August 29, 1973 issuance by GSA of an amendment to the Federal Procurement Regulations (FPR). This amendment implemented another provision of the 1971 Presidential statement calling for standard patent rights clauses to be used by all Federal agencies. When Public Citizen, Inc. filed suit the Administrator cancelled the March 4, 1974 effective date provided for in the regulations. In this case the consumer advocate group argued that whenever the Government acquired less than title to contract inventions it was, in effect, disposing of the property and again violating the Constitution. The District Court dismissed this complaint on July 24, 1974 on the grounds that the plaintiffs (Public Citizen, Inc.) did not have sufficient standing to sue.

The earlier decision of the District Court against the Government was appealed. On June 16, 1975 the Court of Appeals also found that Public Citizen, Inc. lacked standing to sue, and reversed the lower court's findings.

The amendments to the FPR adding standard patent rights clauses were reissued on May 1, 1975. The comprehensive licensing regulations were reinstated on October 1, 1975. [Ref. 33]

Quesenberry notes, however, that dismissal of the cases on the ground that the plaintiffs lacked standing to bring suit is unfortunate: "The viability of the regulations and in the long run of the President's Statement of Government Patent Policy. . . remains under a cloud." [Ref. 2]

A decision by the courts in either lawsuit would have been a historic and enormously significant input to the policymaking process with respect to Government patent policy. Legal precedent could have established a common focal point for policy; something that has been lacking in three decades of attempts to resolve the question.

C. FEDERAL COUNCIL FOR SCIENCE AND TECHNOLOGY REPORT ON GOVERNMENT PATENT POLICY [Ref. 33]

Pursuant to the provisions of the Presidential statement of 1971, the Federal Council for Science of Technology (FCST) issued a comprehensive report analyzing the effectiveness of Government patent policy on September 30, 1976. The majority of the report summarizes FCST Subcommittee findings and recommendations with regard to implementing the Nixon policy statement and the recommendations of the Commission of Government Procurement relating to patent matters. The remainder of the report presents a statistical analysis of agency patent rights operation during the six year period from fiscal years 1970-75.

1. Patent Policy Implementation and Recommendations

Recommendation one of the Commission on Government Procurement called for implementing the 1971 revision to Presidential patent policy "promptly and uniformly." FCST activities in this area had resulted in partial implementation of the recommendation through the GSA issuance of standard patent rights clauses and patent licensing regulation in 1975. The lawsuits which were filed by Public Citizen, Inc., described in the previous section, motivated the FCST to prepare draft legislation designed to obtain maximum Government-wide uniformity in the area of

Federal patent policy.

The committee subsequently developed two basic legislative alternatives: [Ref. 33]

> Under Option I,. . . there were to be two presumptions. First, in contracts intended to develop items for public use, it was to be presumed that title to resulting inventions should be acquired by the Government. . . Second, in those contracts which were intended to develop items for Government use, it was to be presumed that title to resulting inventions should be obtained by the contractor.
>
> Under Option II, two alternative policies were developed. Under Alternative A, the contractor would obtain title to every invention on which he filed a patent application and on which he declared his intention to commercialize the invention, subject to certain "march-in" rights. Under Alternative B, the Government would acquire title to every invention and permit the contractor to obtain an exclusive license on those inventions on which the contractor filed a patent application and declared his intent to commercialize the invention. Under both alternatives of Option II, after the expiration of a period of exclusivity, which would be extended to satisfy the equities of a contracting situation, the invention would be made available for licensing to third parties.

After considering both options, the Committee agree upon a merger of the policy concepts of Alternatives A and B. In summary, the merger provided for the adoption of the policy concepts of the so-called "Alternative Approach" proposed by the Commission on Government Procurement basically as set forth in Alternative A, with the added provision that the Federal agencies also acquire a right in the Government to license third parties under certain circumstances specified in the march-in right provisions. The merged legislation would permit the contractor to obtain invention rights subject to the usual license to the Government, with a requirement that third parties be licensed under resulting patents in specific "public interest" situations.

In August 1976, the Committee's draft legislation, entitled "Federal Intellectual Property Policy Act of 1976," was forwarded to

the Office of Management and Budget (OMB) for Executive Branch consideration.

Title III of the draft addresses the allocation of rights in inventions resulting from Federally-sponsored R & D. Chapter I is specifically concerned with contractor inventions. One seemingly innocuous statement pertaining to licensing consideration in Section 312(b) is worthy of note. In delineating the considerations to be followed in determining whether a contractor should be required to license inventions which have been commercialized, the Committee included: "(8) The effect of such licensing in assisting small businesses and minority business enterprises, as well as economically depressed, low income, and labor surplus areas." [Ref. 33] The significance of this point will be seen shortly.

One final observation on the FCST report is required. The Committee had established a subcommittee to recommend a patent policy which the Government should follow in its research and development activities with universities and other nonprofit organizations. After considering several alternative approaches aimed primarily at "creating an atmosphere conducive to the transfer of inventive results from universities to industry " [Ref. 33], the subcommittee recommended that agencies adopt regulations requiring the use of Institutional Patent Agreement (IPA's) with universities that are found to have an established technology transfer program. The subcommitte report continues:

> After the Government concludes that the university can satisfactorily perform in a manner that would maximize the transfer of its inventive results to the public, the Government and the university should enter into the IPA whereby the university retains principal rights to all

inventions made in performance of their Government-funded research on which the university elects to file a patent application. [Ref. 33]

Though the above recommendation was not incorporated in the FCST draft legislation sent to OMB, its impact will be evident.

2. Agency Patent Operations Statistics

The remainder of the FCST patent policy report summarized data related to Government patent operations. The report is based on data disclosed annually by agencies in response to a detailed questionnaire. Cumulative data for fiscal years 1970-1975 are presented regarding agency patent operations for employees and contractors in terms of the following general categories: a. inventions disclosed; b. allocation of invention rights; c. invention ownership and licensing; d. patent clauses used in R & D contracts; and e. invention use and practice.

The statistics provide valuable insight into agency practices, the magnitude of the Federal patent operations, and future trends. The following statistics directly pertaining to the allocation of rights to contractor inventions are significant:

1. During this six-year period, the Government received a total of 37,513 invention disclosures from contractors. A preponderance of these disclosures was received by the Department of Defense (DOD), National Aeronautics and Space Administration (NASA), and the Energy Research and Development Agency (ERDA).

2. Contractor invention disclosures in 1975 dropped about 43 percent below the 1970 figure. This decrease was about 54 percent from a peak which occurred in fiscal year 1966.

3. As to contractor inventions, the Government acquired rights in 36,695, obtaining title to 30,009 (82 percent) and a license in 6,606 (18 percent). Of 4,051 determinations made in fiscal year 1975, the Government acquired title to 3,042 (75 percent) contractor inventions and a license in 1,009 (25 percent). Of the 3,042 title acquisitions, 1,582 (52 percent) were based on statute, mainly by NASA and ERDA. Of the 1,009 instances in which title was retained by the contractor, 896 (85 percent) resulted from license clauses, mostly in DOD contracts.

4. Over the six-year period, the Government acquired title to 38,159 inventions and a license in 7,636 for a total of 45,795 inventions (contractor and employee). On these inventions, the Government filed 12,741 U.S. patent applications, 4,657 (37 percent) of which were based on contractor inventions to which the Government had acquired title.

5. In addition to those applications filed by the Government on contractor inventions, the contractors themselves filed 5,073 U.S. patent applications.

6. During the six-year period, the Government obtained 12,683 U.S. patents, of which 4,826 covered contractor inventions. The number of patents issued to contractors for their inventions is unknown.

7. In fiscal year 1975, only 656 U.S. patents were issued to the Government for contractor inventions, representing a decrease over the previous year. The highest figure for the six-year period was in 1972. The fiscal year 1975 figure is about 33 percent lower than that for fiscal year 1972.

8. At the end of fiscal year 1975, 27,573 Government owned U.S. patents were available for licensing. Of this total, 1,251 patents had been expressly licensed, sometimes more than once. Of these licenses, 2,167 were nonexclusive and 16 exclusive, 10 by NASA and six by the Department of Health, Education and Welfare (HEW). During fiscal year 1975, 125 patents were licensed, 147 nonexclusive, and four exclusive, the latter all by HEW.

9. The number of contract actions, containing a patent rights clause, reported for fiscal year 1975 was 38,294, of which 23,371 were grants. Almost all of the grants were awarded by HEW and the National Science Foundation (NSF). Title clauses were used in almost all contract actions by HEW, ERDA and NASA; and in approximately 16 percent of DOD contract actions.

10. Through December 1976, the Government had not exercised the licensing authority of the "march-in" provisions of the 1963 and 1971 Presidential policy statements.

Figure V-1 is a graphical presentation of agency operation regarding patent rights under the Presidential patent policy. It displays the distribution of contract actions containing a patent rights clause, giving a percentage breakdown within each agency of title, license, and deferred clauses, implementing sections 1(a), 1(b), and 1(c), respectively, of the 1971 Presidential statement. (See Appendix B).

Figure V-2 relates the number of unexpired Government-owned U.S. patents available for licensing, and the number licensed, at the end of fiscal years 1963-1975.

Figure V-3 displays the number of unexpired U.S. patents available for licensing at the end of fiscal year 1975, with a breakdown by each agency holding title to inventions.

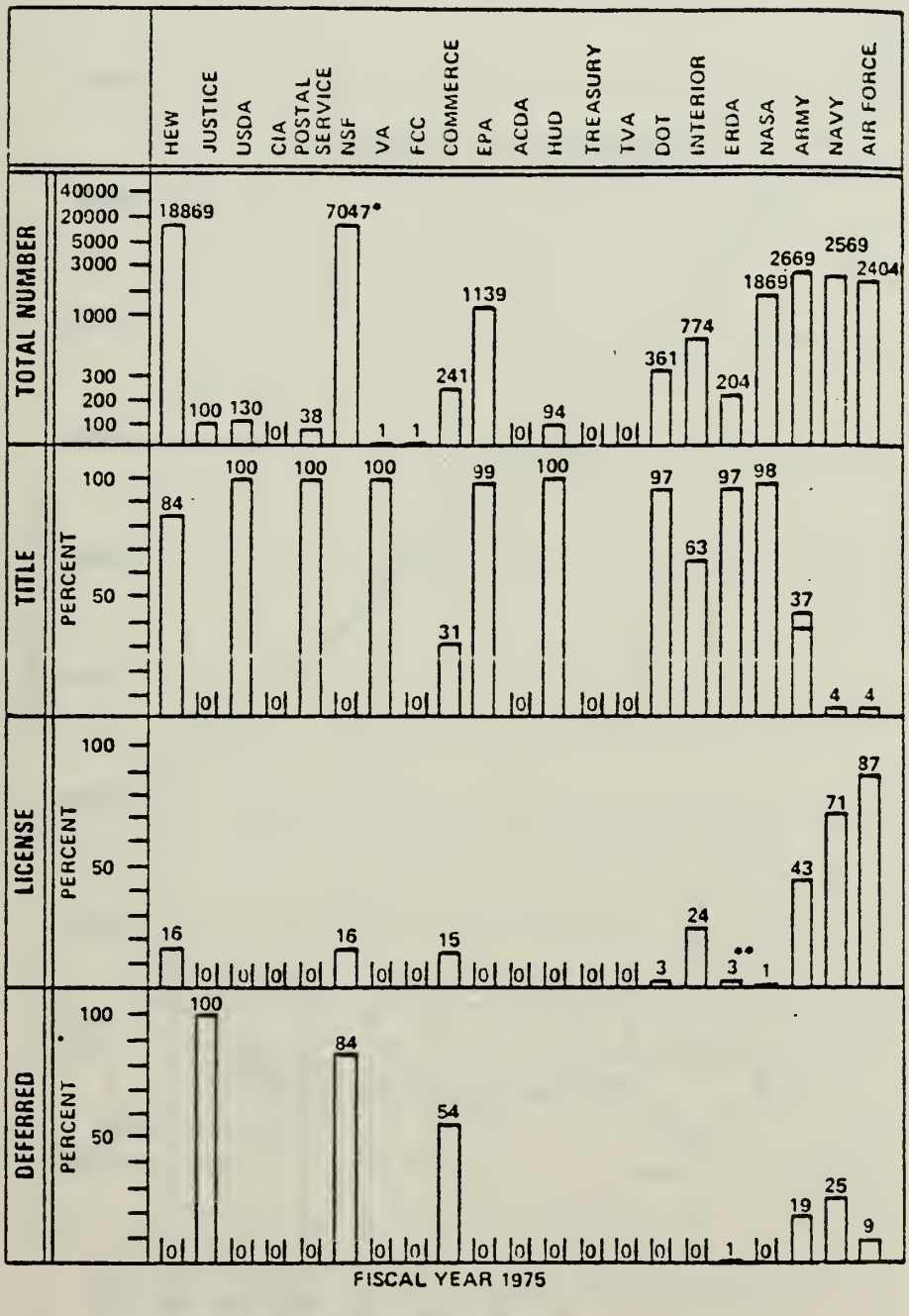
Figure V-4 shows the average values for several significant categories of invention action during the thirteen-year period from fiscal years 1963-1975.

The decline in Government-related contractor patent activities is quite abrupt in several categories. Compared to the thirteen-year average contractors in fiscal year 1975 filed 730 (49 percent) fewer patent applications. Another significant change, compared tc the average, is a 41 percent decline in the receipt of contractor invention disclosures. This decline coincides with a reduction in Government-funded, contractor R & D during the immediately preceding years. The only category to increase is the number of patents issued to the Government on contractor inventions. However, this increase resulted from patents issued on applications filed in prior years. [Ref. 33]

Three key observations can be made regarding the above statistics compiled by the Committee. First, the "commercialization" rate for Government-owned inventions by licensing amounted to 4.5 percent of the total number of patents available from Federal agencies. Second, licensing by Government agencies was carried out strictly on a non-exclusive basis. Less than one percent of agency actions involved exclusive licenses. Finally, a wide disparity existed between agencies regarding the acquisition of rights in contractor inventions. The Department of Health, Education and Welfare (HEW) and NASA used title

Figure V-1

Agency operations under Presidential Policy during fiscal year 1975.



* All or substantially all of these represent grants.

* * Contractor has option in non-atomic areas only.

Figure V-2

Government-owed unexpired U.S. patents available for licensing, and number licensed, at end of fiscal years 1963-75.

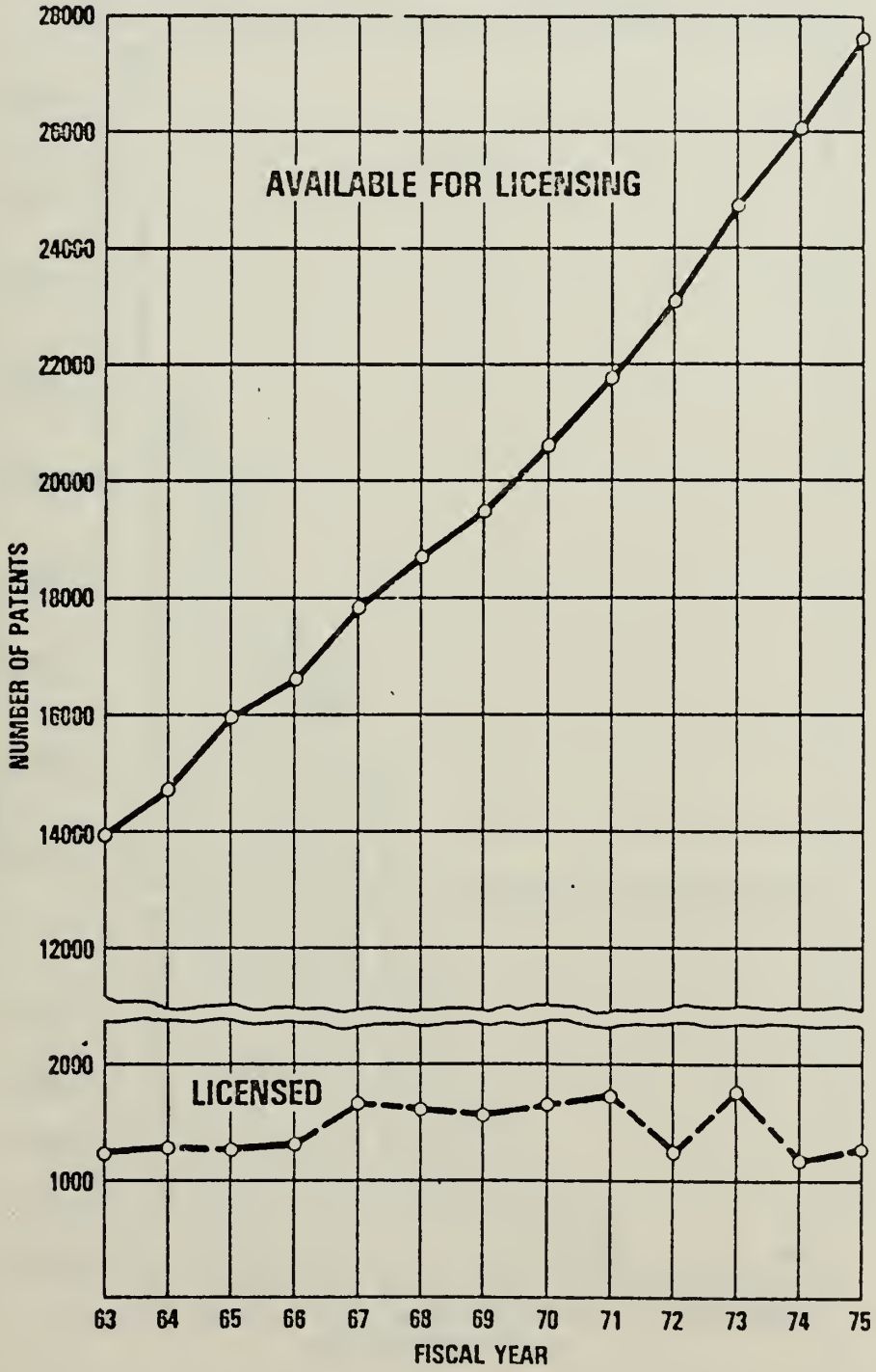


Figure V-3

Agency portfolio of unexpired U.S. patents available for licensing at the end of fiscal year 1975

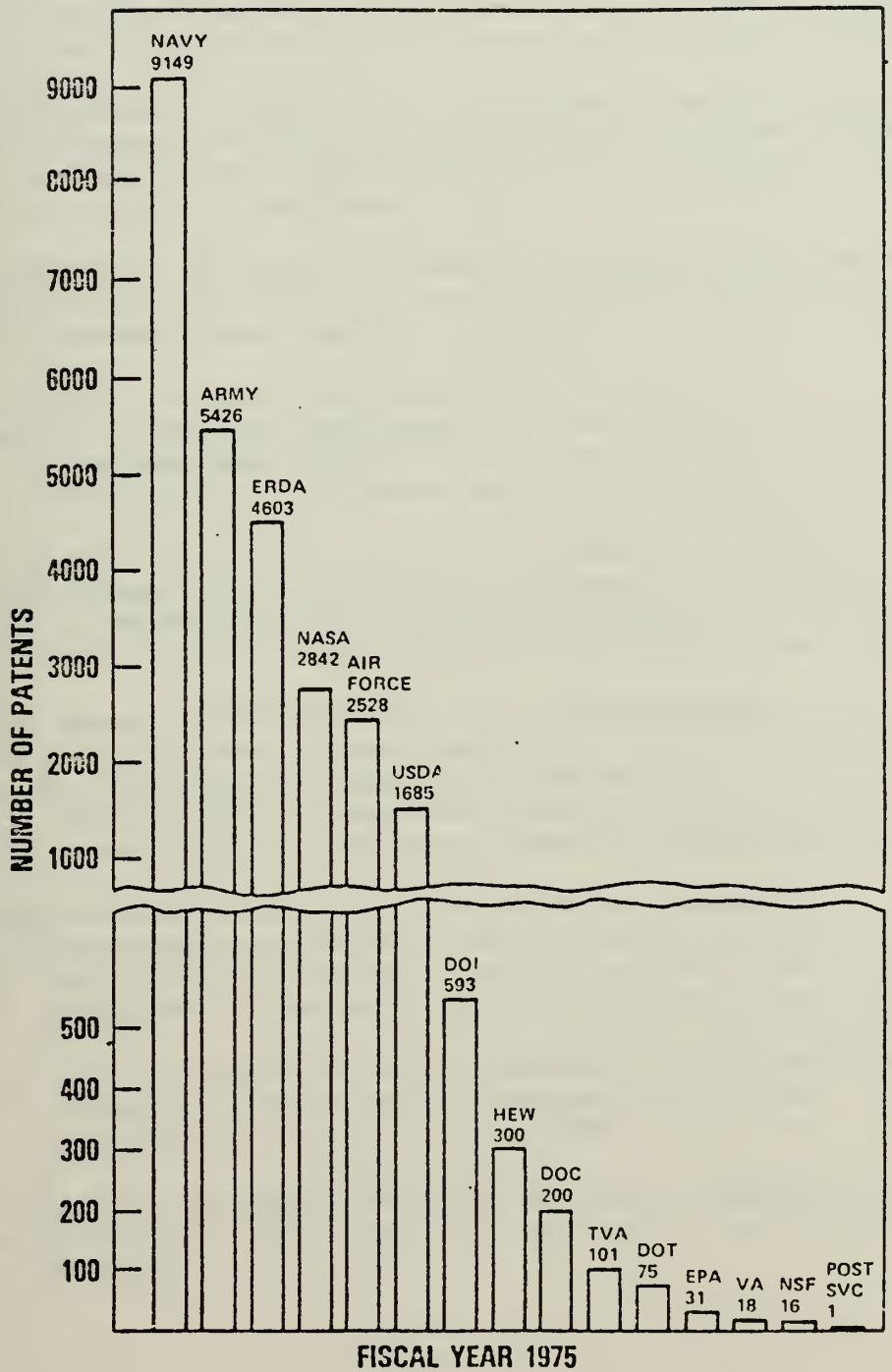


Figure V-4

AVERAGE YEARLY VALUES DURING
FISCAL YEARS 1963-75.

1.	Invention disclosures received by Government		10,519
	a. From employees	2,829	
	b. From contractors	7,690	
2.	Determination of rights made in employee invention disclosures		1,587
	a. Government has title	1,286	
	b. Government has license	221	
	c. No rights in Government	80	
3.	Distribution of rights in contractor invention disclosures		7,539
	a. Government has title	6,071	
	b. Government has license	1,468	
4.	U.S. patent applications filed by Government on employee invention disclosures		1,332
	a. Government has title	1,124	
	b. Government has license	208	
5.	U.S. patent applications filed on contractor invention disclosures		2.060
	a. Government has title (filed by Government)	823*	
	b. Contractor has title (filed by contractor)	1,235	
6.	U.S. patent applications filed by both Government and contractor		3,392
	a. By Government on employee and contractor invention disclosures	1,947*	
	b. By contractor on contractor invention disclosures	1,443	
7.	Invention disclosures for which no patent protection will be sought		6,718
	a. Employee	1,400	
	b. Contractor	5,318	
8.	U.S. patents issued for which Government has title		1,698
	a. On employee invention disclosures	955	
	b. On contractor invention disclosures	743	

*Allocation of rights determinations were not made on all the applications filed during Fiscal Years 1966 and 1967. Therefore, totals do not equal subtotals.

clauses in virtually all contract actions, whereas DOD employed title clauses in only 16 percent of its R & D contracts.

D. INDUSTRIAL INNOVATION INITIATIVES

In April 1978 President Carter initiated a "Domestic Policy Review" aimed toward identifying appropriate Government actions in connection with stimulating innovation in U.S. industry. The Secretary of Commerce was charged with overall responsibility for conducting the Review. One of the nine areas on which recommendations were to be presented to the President was improvement in the patent system.

On December 20, 1978 a draft report of the Advisory Subcommittee on Patent and Information Policy of the Advisory Committee on Industrial Innovation was submitted to the Secretary of Commerce. [Ref. 28] The report found that, in general, the U.S. patent system could be modified to produce a beneficial effect on innovation. Four major goals were identified to which attention should be addressed to enhance the innovation process through improvement of the present patent system;

1. Enhancement of the reliability of the patent grant to the inventor and those investing in the commercialization of his invention;

2. Reduction in the cost-both in time and money- of judicial enforcement of the rights derived from the patent;

3. Extension of the availability of commercial exclusivity derived from patents to technological advances presently denied patentability; and

4. Development of systems transferring the commercial rights to government-supported inventions to those in the private sector capable of their innovation.

With regard to the fourth goal, the Subcommittee further stated:

> To foster commercialization of inventions made in governmental laboratories, under government research contracts and in university laboratories supported with federal funds, the subcommittee recommends that the commercial rights in such inventions be structured in a manner capable of being transferred to industry--small or large-- to insure capital investment in their development. Such transfers should be subject to a license right reserved to the government to insure no further payment for governmental use of the invention. [Ref. 28]

The report developed one specific proposal with respect to the goal of fostering commercialization. In doing so, the Subcommittee reviewed the common arguments generally associated with any discussion of Government patent policy:

1. Past experience has shown that the Government, as a consumer of goods in services, is not in a position to take advantage of patent ownership to promote "enterprise."

2. Private companies are ordinarily unwilling to take a nonexclusive license under Government-owned patents and commit the funds necessary to develop the invention with no protection from competition. Thus, over 90 percent of Government patents are not used.

3. The Government obtains patent protection on "technology" which, in the opinion of the private sector, does not provide an attractive business opportunity.

4. The right to exclude others conferred by a patent, or an exclusive license thereunder, may be the only incentive great enough to induce the investment needed to develop and market products. Through such commercialization of Government-owned research, the public receives its benefits in the form of goods and services, more jobs, and more income.

The Subcommittee's recommendation proposal reads as follows:

> Therefore, all the members of the subcommittee recommend transferring the patent rights on the results of government-sponsored research to the private sector for commercialization. In the case of university or private contractor work sponsored by the Government, . . . title to the patents should go to the university or contractor, but some members feel the government should have "march-in rights". . . In all cases, the government would retain a nonexclusive license to use and have made for its use inventions funded in whole or part by governmental expenses. [Ref. 28]

President Carter subsequently considered a wide range of options prior to deciding to seek legislation that would establish a uniform Government patent policy with exclusive licenses in the "field of use." In his October 31, 1979 message to Congress which announced his Industrial Innovation Program, President Carter stated:

> Patents can provide a vital incentive for innovation, but the patent process has become expensive, time-consuming, and unreliable. Each year, fewer patents are issued to Americans. At my direction, the Patent and Trademark Office will undertake a major effort to upgrade and modernize it processes. In order to restore the incentive to patent -- and ultimately develop -- inventions, I will also seek legislation to provide the Patent and Trademark Office with greater authority to re-examine patents already issued, thereby reducing the need for expensive, time-consuming litigation over the validity of a patent.
>
> For over thirty years the Federal agencies supporting research and development in industry and universities have had conflicting policies governing the disposition of pertinent rights resulting from that work. This confusion has seriously inhibited the use of those patents in industry. To remove that confusion and encourage the use of those patents I will support uniform government patent legislation. That legislation will provide exclusive licenses to contractors in specific fields of use that they agree to commercialize and will permit the government to license firms in other fields. If the licensee fails to commercialize the invention, the government will retain the right to recapture those rights. I will also support the retention of patent ownership by small businesses and universities, the prime thrust of legislation now in Congress, in recognition of their special place in our society. [Ref. 34]

It is important to note that the President's initiatives in the patent area were not limited to the single question of Government patent policy

regarding rights in inventions developed in Federally-sponsored R & D contracts. The Patent and Trademark Office was to be reorganized and modernized, and significant streamlining of the procedures involved in issuing and reviewing patents was also proposed. Lastly, the Small Business Administration (SBA) would become involved in assisting inventors with efforts to develop their inventions into business enterprises. [Ref. 34]

E. PATENT LEGISLATION IN THE 96TH CONGRESS

At the time President Carter delivered his "Innovation Policy" message to Congress, several pieces of legislation had already been introduced in both the House and Senate which proposed sweeping patent reforms. An historical review of each of these legislative proposals, though instructive with regard to the complexities of the lawmaking process, is beyond the scope of this section. Therefore, only those two bills which ultimately led to enactment of patent policy legislation will be discussed.

1. S.414: Bayh-Dole Bill

Senator Bayh introduced Senate bill S.414, "University and Small Business Patent Procedures Act," on February 9, 1979. The formal purpose of the Act was composed as:

> To amend title 35 of the United States Code; to establish a uniform Federal patent procedure for small businesses and nonprofit organizations; to create a consistent policy and procedure concerning patentability of inventions made with Federal assistance; and for other related purposes. [Ref. 35]

The bill was subsequently referred to the Senate Committee on the Judiciary. After undergoing public hearings and amendments, the final

draft of the act was reported out of Committee on December 12, 1979.

The prominent sections of S.414 with respect to the discussion to follow are: [Ref. 35]

a. As defined by the bill the term 'contractor' refers to any person, small business firm, or nonprofit organization that is a party to Federal contracts, grants, or cooperative agreements for R & D effort. Therefore, the rights of large businesses (those not having the small business definition found in Public Law 85-536) are not included in the patent policy to be established.

b. Subject to certain limited restrictions, a small business or nonprofit firm may elect to retain rights in inventions discovered and disclosed under Government R & D contracts. Agency determinations to the contrary require written statements justifying the action.

c. In situations where the contractor elects to retain title, the Government retains a nonexclusive royalty-free license to practice the invention on behalf of the United States.

d. Nonprofit organizations are restricted in their authority to assign rights in or issue exclusive licenses to practice an invention. Authorization for an exception to these provisions requires approval from the cognizant Federal agency.

e. Agencies retain "march-in rights" to require contractors to license the invention in order to achieve commercialization and insure utilization in the public interest.

f. Small business and non-profit organizations are to receive first preference in licensing of Federally-owned inventions.

g. Disposition of rights in contracts involving "persons other than nonprofit organizations or small business firms" are to be determined in accordance with the 1971 Statement of Government Patent Policy or agency implementing regulations.

h. The bill addressed no aspect of the U.S. patent system other than the question of disposition of rights in inventions.

Final hearings, on the Bayh-Dole bill were held on January 25, 1980. It is significant to note at this point that on the previous day the Carter administration had submitted its legislative proposal as outlined in the President's October 1979 message to Congress. As Senator Stevenson observed:

> We received the administration's bill only yesterday. It is a draft bill. But the bill conforms to the principles which were outlined by the President three months ago, and so we urge our witnesses to focus on this proposal. [Ref. 36]

Senator Bayh, co-sponsor of S.414 with Senator Dole, commented on the administration's bill:

> I agree with President Carter that the solution to this problem lies in a two-tier approach: One patent policy for small businesses, nonprofit organizations, and universities that will both encourage innovation and promote competition, and another policy for the other contractors to insure their ability to bring new products to the public which is supporting our research and development efforts. The draft legislation we are considering today is a commendable effort in this effort, but I must say in all candor that I think it is a serious mistake to try to lump both of these policies under one piece of legislation. Because the formulation of a patent policy covering large businesses is such a complex undertaking, and because there is now wide agreement on the needs for changing the present policies regarding small companies and universities, it is simply unfair to force those whose problems are so clearly in need of immediate redress to wail until agreement is reached on what to do about the larger contractors. My own experience with the Judiciary Committee, which reported S.414 out favorably to the Senate by a voice vote, reinforces this view. I am certain that it would have been impossible to have had the same success with a more encompassing bill. . . We do not

> need to fear, however, that if all the problems are not solved in one bill they never will be resolved. The problems of innovation and productivity are so serious that the Congress will be forced to address them for years to come. It is worthwhile to proceed with well thought-out legislation to remedy the problem. [Ref. 36]

The explicit intent expressed by the Senator, that of insuring passage of S.414 would not be delayed in deferrance to the President's patent policy proposal, did not encourage those legislators who would introduce the administration bill several months later.

Witness testimony during the hearings which followed provides an excellent display of the institutional roles involved in the lawmaking process. Representatives from the executive and clientele groups sought to influence the Congressional members present to adopt their views on the Government patent policy question.

Dr. Jordan Baruch, Assistant Secretary of Commerce for Science and Technology, did not share the views expressed by Senator Bayh:

> But while we (the administration) believe in title in small businesses and universities, they are special cases. Small business has testified. . . that at best small businesses does only a minute fraction of Government R & D. Despite the other efforts of the administration and the Congress to increase the share of Government R & D in which small business engages, their share will continue to be small. . . So if we are to do other than deal only with the very tip of the iceberg, it's imperative that we deal with the larger businesses as well. [Ref. 36]

Similar points were discussed by Robert Benson, Director of Patent Law, Allis-Chambers Corporation, who had served on the Patent Advisory Subcommittee of President Carter's domestic policy review on industrial innovation:

> When we were doing our study on industrial innovation, we were concerned with the total innovation process, not just the patent area, and patents are just one step in a long process. One of the things we're talking about today is, who's doing the R & D, and who's coming

up with the inventions? But the real problem with getting a product to the market is that point between coming up with a concept, and coming up with something which is practiced and can be sold in the marketplace. That skill is a different skill than the innovation of the original idea. That skill, in many cases, is very strongly lodged in the corporations who have been successful in marketing. That's their strong point, and you need them. Small corporations and individual inventors often turn to larger corporations for assistance in marketing and for the refinement of engineering to make things practical. We need that skill. There is no reason, in my view, to discriminate against the large corporation in this area, where your real goal is to get things into the marketplace. [Ref. 36]

The viewpoint of the small business community was represented by the remarks of Mr. Eric Scheller, chairman of the board of trustees of the National Small Business Association:

S.414 appears to the small business community to constitute a long sought, very sanitary conclusion to ameliorate a critical, difficult problem that we now face. . . President Carter, in his October 31, 1979 industrial innovation message to Congress, stated that he will support uniform Government patent legislation. That legislation will provide exclusive licenses to contractors in specific fields of use. [Ref. 36]

Mr. Schellin went on to quote President Carter's remarks stating the administration's support of legislation providing retention of patent ownership by small businesses and universities. He continued his remarks:

While the President did not specifically identify the legislation about which he spoke, small business interprets this to mean S.414. I would further opine that the President intended to incorporate the concept of an "exclusive license to contractors in specific fields of use "in legislation apart from S.414. [Ref. 36]

After discussing the administration's legislation proposal at some length, Mr. Schellin summarized his remarks as follows:

Therefore, the President's mandate of October 31, 1979, is best carried out by first attending to the enactment of S.414, followed by continuing consideration of the proposed draft legislation if that is necessary. Small business is grateful to have found an ally in the President, whose presence complements the many allies already evident in the Congress. [Ref. 36]

Several preliminary conclusions regarding S.414 and the hearing testimony presented above can be made prior to continuing the discussion. First, Senator Bayh and, it may be assumed, his Senate colleagues were not in favor of adopting the administration's new legislative proposal in lieu of enacting S.414. Second, testimony by representatives of the administration indicated that failure to address the patent rights of large business would result in the establishment of an incomplete Government patent policy. Finally, the small business community heavily favored S.414 and would perceive any action by the administration to block passage of the bill as contrary to the best interests of that group.

The Bayh-Dole bill, S.414, passed the Senate on April 23, 1980 and was forwarded to the House of Representatives.

2. H.R.6933: Carter Administration Proposal

The administration's draft legislation for reforming the U.S. patent system, including a comprehensive revision of Government patent policy, was passed to Congress on January 24, 1980. As evidenced by the preceding discussion, the President's proposal received immediate attention from all quarters.

The provisions of the draft legislation were embodied in a House bill, H.R.6933, entitled "To amend the patent and trademark laws." The bill, co-sponsored by Representatives Kastenmeier, Rodino, and Railsback, was introduced on March 26, 1980. Following referral to and amendment by the House Committee on the Judiciary, it was reported out of committee on September 9, 1980.

In contrast to S.414, the Carter administration's bill not only introduced a revision to Government patent policy but also proposed sweeping revisions to the U.S. patent system. For purposes of this discussion, the bill will be outlined briefly in terms of those two areas.

a. The patent system

A great majority of the bill concerns the organization and administrative practices of the U.S. Patent and Trademarks Office (PTO). As reported out by the Judiciary Committee, the bill would remove the PTO from the Department of Commerce, establishing it as an independent Federal agency. The reorganization was directed toward enhancing the efficiency of the PTO and improving its services to the business community and the public. [Ref. 37]

Sections 1-5 of the bill propose amendments to the patent and trademark laws, and revise certain PTO fee structures. [Ref. 37] Section 1 adds seven new sections to the patent laws to establish a patent reexamination system. The new sections would constitute Chapter 30 of Title 35 of the United States Code. Section 2 restructures and modernizes Section 41 of Title 35 of the United States Code, the basic fee provisions of the patent laws. Section 3 proposes a similar amendment to provide for crediting fee revenues to the PTO Appropriation Account. Section 4 of the bill is a technical amendment to Section 154 of the patent law necessitated by creation of a maintenance fee provision. Section 5 amends Section 31 of the Trademark Act of 1946 (15 U.S.C. 1113) to modernize the trademark fee system.

Section 8 provides for effective date of the bill's provisions. Section 9 requires the Comptroller General to report to Congress and the President, on or before July 1, 1981, a report describing the operations of the PTO, the Copyright Office, and the Copyright Royalty Tribunal. The report was to include recommendations for change. Section 10 requires the Commissioner of Patents and Trademarks to submit a report to Congress within six months after the effective date of the act, on a plan for computerized data and retrieval systems for the operation of the PTO. Section 11 amends Title 35 of the United States Code to establish the PTO as an independent agency, as previously discussed. Finally, Section 12 recognizes computer programs as material which can be copyrighted. [Ref. 37]

b. Government patent policy

Section 6 of H.R.6933 provides for a uniform policy for disposition of patent rights in Government-funded research. There are two patent policies provided in this section. [Ref. 38] Nonprofit research institutions and small businesses are given preferential treatment. The legislation establishes a presumption that ownership of all patent rights in Government-funded R & D would vest in any contractor who is a nonprofit research institution, including universities, or a small business. This portion of H.R.6933 substantially incorporates the provisions of S.414, described in the previous section.

Large businesses are governed by a separate policy. They receive exclusive licenses for specific "fields of use" they intend to commercialize. In hearings held by the House Committee on the

Judiciary, an amendment had been added which granted temporary title to a contractor for up to four and one half years before requiring him to specify his fields of use. This change was intended to reflect the contention of several witnesses that it would otherwise be impossible for a contractor to determine in good faith his ability to commercialize in a particular field of use at the time of invention disclosure. The amendment also provides contractors with many of the advantages of patent ownership, including full title abroad and the right to sub-license domestically. [Ref. 38]

One significant impact of the revised Government patent policy was recognized in the Judiciary Committee's report:

> Some contractors, particularly in the defense area, will lose some rights which they presently receive through full waiver. However, the overwhelming number of contractors will receive faster, more efficient treatment under these provisions. For example, delays in acting on patent right waiver requests, which now take on the average of a year and a half in agencies like the Department of Energy, will be eliminated. Contractors will know their rights with certainty within 90 days of identifying a specific field of use under a patent to a government financed invention. [Ref. 38]

Appendix C provides a section-by-section analysis of Section 6 of H.R.6933. This section amends Title 35 of the United States Code by adding a new Chapter 38, entitled the "Government Patent Policy Act of 1980." [Ref. 38]

Section 7 of the bill amends or repeals parts of other acts as necessary to implement the new patent policy as described above. The patent policy sections of the National Science Foundation Act of 1950 (Section 12), Atomic Energy Act of 1954 (Section 152), and the National Aeronautics and Space Act of 1958 (Section 305) were among those to be

repealed. As discussed in Chapter 3 of this thesis, these specific patent policy provisions reflected prior Congressional attempts at defining Government patent policy on an act-by-act basis.

Strict time constraints were placed on final hearings on H.R.6933 to be held by the House Committee on Government Operations. With the limited number of working days remaining in the 96th Congress, due not insignificantly to the rapidly approaching national elections, final committee action on the bill was required not later than September 23, 1980. [Ref. 39] The results of these hearings, as well as final Congressional action regarding both S.414 and H.R.6933, are discussed in the next section.

F. PATENT AND TRADEMARK LAW AMENDMENTS OF 1980

The House Committee on Government Operations held hearings on the administration's patent legislation, H.R.6933, on September 16-17, 1980. This committee was concerned with two major provisions in the bill: Section 6, which establishes a new patent policy for inventions made in the course of or under Federal contracts; and Section 11, which separates the Patent Office from the Department of Commerce. For purposes of this discussion, the emphasis will be primarily on testimony given on the patent policy question.

Philip Klutznick, Secretary of Commerce, addressed both sections of the bill. With regard to establishing the PTO as an independent agency, he commented:

> I am unalterably opposed, for reasons that I should like to delineate. The basis on which the suggestion is made that the office should be removed from the Department of Commerce is, in my judgment, without merit.

> The charges are made that it does not get enough attention, that it does not get sufficient funds, that it is not a part of the Department of Commerce because it has a quasi-judicial function. . . I testify as a businessman that the attempt to solve problems of system in an organization like the PTO by throwing money at it may be the most foolish thing that can be done. [Ref. 39]

He went on to address the patent policy aspects of the bill:

> I have been a bit disturbed by the tendency to consider some aspects of this bill as being big business oriented and some parts of it small business oriented. It is U.S. oriented. It is an effort, after many years, to develop a U.S. policy on allocation of rights in patents. . .That means that instead of what the Department of Defense does today or another department does tomorrow with respect to transferring title to patents, such transfer has to be regulated in the interests of the public. Today a good part of patents created. . . are in the Department of Defense; title goes to the contractor. . . The bill, in effect, reduces the rights of contractors instead of increasing them. [Ref. 39]

Committee Chairman Jack Brooks questioned Secretary Klutznick and the Assistant Secretary for Science and Technology, Dr. Jordan Baruch, extensively on the provisions in H.R.6933 which granted temporary title to the contractor for four and one half years, with provision for exclusive licensing thereafter. In response to the answers he received, Representative Brooks stated:

> I understand what you are saying. You are proposing that they not be given the title. I hope that the bill will not give them title. I feel sure that this bill can be amended to include that portion of your concept that they not give the title to anybody, that the Federal Government retain the title forever. We paid for it; we bought it; we keep it. . . why do they want, in addition to that opportunity to get an exclusive right, automatic, exclusive rights to the patents that we paid for with some $30 billion of Federal money? It is unconscionable. I am going to try to cut that out, if my name is Jack Brooks. [Ref. 39]

Admiral Hyman G. Rickover, Deputy Commander for Nuclear Power, Naval Sea Systems Command, supported the Chairman's views:

> Based on 40 years experience in technology and in dealing with various segments of American industry, I believe the bill would achieve exactly

the opposite of what it purports. It would impede, not enhance, the development and dissemination of technology. It would hurt small business. It would inhibit competition. It would promote greater concentration of economic power in the hands of large corporations. It would be costly to the taxpayer. [Ref. 39]

He later addressed the R & D environment in the Defense Department:

The majority of Federal R & D dollars will go to large corporations. For example, in 1979, 61 percent of the Defense Department's research and development procurement budget went to only 19 companies. If the rights to publicly financed inventions are given to contractors, the Government itself will be promoting the concentration of economic power in the hands of a few large corporations. As conglomerates continue to take over more companies, the problem is exacerbated. [Ref. 39]

In sharp contrast to Admiral Rickover's testimony, Mr. Ky Ewing, Deputy Assistant Attorney General, Antitrust Division, offered favorable comments on the administration's bill:

Today we have a situation where we have a lot of different laws. We have even more regulations. We have 26 different patent policies in this town. And while we have laws that say Government should retain title, we have a fact out there; the fact is that 92 percent of all our R & D money is going to large businesses. The fact is that most of them are getting it, in terms of dollars, from DOD and the agencies with a very active waiver policy. . . what I am saying, from the Antitrust Division's point of view, is that this bill will give us far more protection against the very concerns you have than we have under the present system, which. . .as a practical matter is automatically and quite blindly in most cases waiving rights over to contractors. . . [Ref. 39]

Following conclusion of the hearings, the Committee made four amendments to H.R.6933. [Ref. 36] The first amendment deleted the requirement in Section 9 for the Comptroller General to report on the operation of the Patent Office. The second amendment altered Section 10 by changing from six months to two years the time permitted the Commissioner of Patents to submit a plan for computerizing data in the PTO. The third amendment deleted the requirement for the Commissioner to report every six months on the progress being made in implementing computer

technology. The last amendment deleted Section 11 of the bill; therefore, the Patent Office would remain in the Department of Commerce.

The final bill as amended was reported to the entire House on September 23, 1980. Following the national elections, H.R.6933 was passed in the House on November 17, 1980, and sent to the Senate. [Ref. 40]

The Senate considered the bill on November 20, 1980. As reported by the Senate Committee on the Judiciary, the bill had been amended by striking out Section 6 of the House version. The "Government Patent Policy Act of 1980" was deleted. In its place, the Committee had inserted the "University and Small Business Patent Procedures Act", S.414.

Senator Bayh explained the amendment as follows:

> The amendment I am offering represents in essence the patent policy incorporated in S.414, which was overwhelmingly passed by the Senate . . . This amendment represents a satisfactory compromise between the positions of the Senate and the House. This bill will be a significant step forward not only for the patent system, but for American innovation and productivity. [Ref. 41]

The amended bill passed and was forwarded to the House.

The original House sponsors of the administrations's draft legislation were faced with determining whether or not the amended Senate version would now be challenged. They chose to not do so. Representative Kastenmeier stated:

> ...the bill we passed on Monday by voice vote is intact except for Section 6 relating to a uniform patent policy having to do with other than small businesses and universities. In essence, the Senate deleted that section... Under the circumstances, I would say. . .that we will have to wait until next year to pursue again the uniform patent policy section... But in the meantime, rather than hold hostage these noncontroversial areas, I think we have no real option but to move forward with this and send it to the White House. [Ref. 42]

H.R.6933 passed the House and was forwarded to the White House. On December 12, 1980, President Carter signed the bill into law. A copy

of the law, Public Law 96-517, is provided in Appendix D.

G. SUMMARY

The disposition of rights in inventions developed under Federally-funded R & D contracts according to the licensing guidelines of the Nixon memorandum had been challenged in two lawsuits. The Constitutional authority whereby Federal agencies may take less than full title to subject inventions discovered by their contractors is still lacking an official recognition through the precedent of court decisions.

The performance record of Government agencies in following the patent policy espoused by two Presidents indicates that uniformity of rights determinations has not been achieved. DOD routinely vests patent rights in its R & D contractors; NASA, on the other hand, routinely acquires title in a great number of cases.

The lawmaking process in Congress has now produced the first amendments to patent law which clearly define the rights to which the Government is entitled in return for its massive investment in American R & D effort. A unique approach, however, has been introduced into the patent policy controversy: uniformity by exception. Public Law 96-517 establishes the presumption of ownership of inventions for small businesses, universities, and other nonprofit institutions. For the vast majority of agency contracting actions, though, the disposition of rights is unaffected.

The Carter administration's comprehensive legislative package has introduced significant modernization to strengthen the U.S. patent system. The attempt to establish a uniform Government patent policy in

the same piece of legislation was, perhaps, far too ambitious an undertaking. The political "compromise" reflected in the patent law amendments made by the Senate dictated acceptance of a "noncontroversial" policy applicable to but a small percentage of Federal R & D contracts.

VI. CONCLUSIONS AND RECOMMENDATIONS

A. GENERAL

This chapter is divided into three sections. The first section provides a summary of the evolution of Government patent policy following World War II, including the current practices in Federal agencies today. In the second section conclusions regarding the impact of the 1980 amendments to the United States patent and trademark laws are presented in light of these observations. The third section proposes several recommendations developed from the historical review of the evolution of Government patent policy presented in this thesis.

The author conducted this research as part of a graduate program of study in the field of acquisition and contract management. The foregoing historical development of the Government's patent policy with respect to rights to inventions discovered during performance of Federally-funded R & D contracts can serve as a substantive reference for future research in this area.

B. SUMMARY

One purpose for this thesis was to review the evolution of Government patent policy in terms of the interaction of the Executive, Legislative, and Judicial Branches. The objectives of the U.S. patent system were defined as:

1. disclosure of ideas and 2. encouraging commercial utilization of these ideas to provide products for consumption. Tangible support

of these objectives was provided by the Constitutional authority given Congress for "securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries." This right of exclusivity covers a period of seventeen years, but carries with it no reciprocal obligation that the patent-holder either make, use, or sell the patented invention or permit others to do so. It was assumed that the possibility of material reward to the inventor from commercialization of an invention would provide adequate inducement for the disclosure and introduction of new inventions in the public marketplace. Both Congress and the courts subsequently recognized a need to promote the "public interest" in the development of licensing practices and the assignment of patent rights.

As Federal funding for R & D activities after World War II continued to represent a growing investment in scientific knowledge, concern with the disposition of rights in contractor inventions developed in the Government. The Executive Branch initiated early efforts to formulate a uniform patent policy. Though largely ineffective in directing agency practices, Presidential efforts served to identify the conflicting political and economic considerations involved in approaching what was to be a controversial, emotional issue.

The Congressional lawmaking process confronted the question of Government patent policy on a fragmented, act-by-act basis. As bills creating new agencies with significant research mission needs were introduced in the post-war period, legislators incorporated specific patent provisions into the laws enacted. Thus, differing statutory

requirements defining the disposition of rights in inventions for the newer agencies and departments began to appear. Many times the Congressional patent policy served to accentuate the sharp contrast with the practices followed by older agencies. The "title" provisions in acts such as the Atomic Energy Act of 1954 bear little resemblance to the Defense Department "license" practices which had evolved over many decades. Subsequent efforts by the Legislative Branch to develop a uniform patent policy for all Federal agencies were ineffective. Advocates of two extreme positions, title versus license policy, could not agree on a comprehensive approach which best served the public interest.

The 1963 Kennedy Memorandum and Statement on Government Patent Policy reflected a need to achieve consistency in agency practices through a "flexible" policy designed to promote commercialization of inventions developed under Federal R & D contracts. Extensive reports on the effects of Government patent policy issued in the years following the Kennedy Memorandum offered numerous, and often opposing, recommendations for refining the policy. Those inputs were eventually used to draft a revised policy statement issued by President Nixon in 1971. The concept of flexibility in agency determinations regarding the disposition of patent rights was reaffirmed as the proper vehicle for promoting commercial utilization of Government-funded inventions. Comprehensive licensing regulations were later issued to direct agency programs for transferring Federal technology tc the public sector. Having survived an inconclusive court challenge, the GSA regulations established the authority for agencies to use exclusive licensing as

an incentive for commercial development of Government-owned inventions. In the final analysis, however, the Kennedy and Nixon Memoranda did not settle the patent policy controversy.

In 1972 the Commission on Government Procurement had recommended that, should the Nixon statement not produce tangible changes in agency practices, a single legislative program to consolidate conflicting policy statutes be presented to Congress. A directed review by FCST of agency practices under the Nixon guidelines indicated in 1976 that a need still existed for such a comprehensive legislative approach to establish a uniform patent policy. Spurred by concerns with declining productivity and a lack of innovation in the U.S. economy, the Carter administration submitted draft legislation, H.R.6933, to Congress with an express intent of strengthening the entire United States patent system. Final Congressional action on the bill resulted in passage of the 1980 amendments to the patent and trademark laws, P.L. 96-517, signed by President Carter on December 12, 1980.

C. CONCLUSIONS

Though an explanation of the nuances of the political "compromise" which ultimately determined the enactment of H.R.6933 as P.L. 96-517 are admittedly beyond the scope of this thesis, several conclusions can be presented:

1. P.L. 96-517, amending the patent and trademark laws, does not establish a uniform Government patent policy with respect to rights in inventions arising in or under Federally-sponsored R & D contracts. It does provide a presumption of ownership for small businesses, universities,

and other nonprofit organizations.

2. Disposition of rights for large businesses, which as a group account for 92 percent of Federal R & D contractual agreement, will continue to be made in accordance with the 1971 Nixon statement and existing agency regulations.

3. As this research effort has shown, current agency patent practices are far from representing any modicum of uniformity of Government patent policy. Opinions to the contrary notwithstanding, this lack of uniformity does result in a negative impact upon the ability of Federal agencies to acquire the services of the Nation's most technically competent R & D contractors.

4. Any legislation proposing the establishment of a uniform Government patent policy must stand in its own right. Incorporating such policy provisions in comprehensive legislative proposals, as in the case of H.R.6933, can create a situation in which political considerations dictate agreement to less than uniform patent policy in order to insure that the entire legislative package is enacted.

5. Inasmuch as the provisions address disposition of patent rights for but a small minority of Federal R & D contractors, the impact of of Public Law 96-517 on agency contracting practices will be minimal.

D. RECOMMENDATIONS

The objectives of this thesis included formulating recommendations for future initiatives in the effort to establish a uniform Government patent policy. The recent enactment of P.L. 96-517, and the attendant implementation of its patent policy provisions, has altered the substance

of the recommendations presented below.

1. The patent policy provisions of P.L. 96-517 are scheduled to become effective on July 1, 1981. The two agencies with responsibility for promulgating implementing regulations, GSA (licensing) and OFPP (contract clauses and acquisition regulations), must insure that action on these requirements is completed as expeditiously as possible, preferrably in advance of the effective date.

2. The annual report to Congress by the Comptroller General regarding implementation of the provisions of the new law by individual agencies should be expanded to include a statistical analysis of the effectiveness of the act in promoting commercial utilization of Government-sponsored inventions. This report would include not only situations where the contractors retain title, but also those in which exclusive and nonexclusive licenses are issued. A comparison should be made between small businesses/nonprofit organizations and all other contractors to conform with the distinction made within the law.

3. Both the new administration and the Congress should encourage development of a single piece of legislation which will establish a uniform Government patent policy for all contractors. Though historically such efforts have been unsuccessful, the need for such action has not diminished.

E. FUTURE TOPICS FOR RESEARCH

A number of related topics were found which would serve as excellent subjects for future research. They are:

1. A review of the change in the pattern of Federal agency patent practices in response to P.L. 96-517.

2. A survey of small businesses, universities, and other nonprofit institutions to assess the impact of P.L. 96-517 on their success in commercialization of Government-sponsored inventions.

3. Development of a draft legislative proposal which would extend the provisions of P.L. 96-517 to all other Government R & D contractors.

APPENDIX A

Memorandum of October 10, 1963

[GOVERNMENT PATENT POLICY]

Memorandum for the Heads of Executive Departments and Agencies

Over the years, through Executive and Legislative actions, a variety of practices has developed within the Executive Branch affecting the disposition of rights to inventions made under contracts with outside organizations. It is not feasible to have complete uniformity of practice throughout the Government in view of the differing missions and statutory responsibilities of the several departments and agencies engaged in research and development. Nevertheless, there is need for greater consistency in agency practices in order to further the governmental and public interests in promoting the utilization of federally financed inventions and to avoid difficulties caused by different approaches by the agencies when dealing with the same class of organizations in comparable patent situations.

From the extensive and fruitful national discussions of government patent practices, significant common ground has come into view. First, a single presumption of ownership does not provide a satisfactory basis for government-wide policy on the allocation of rights to inventions. Another common ground of understanding is that the Government has a responsibility to foster the fullest exploitation of the inventions for the public benefit.

Attached for your guidance is a statement of government patent policy, which I have approved, identifying common objectives and criteria and setting forth the minimum rights that government agencies should acquire with regard to inventions made under their grants and contracts. This statement of policy seeks to protect the public interest by encouraging the Government to acquire the principal rights to inventions in situations where the nature of the work to be undertaken or the Government's past investment in the field of work favors full public access to resulting inventions. On the other hand, the policy recognizes that the public interest might also be served by according exclusive commercial rights to the contractor in situations where the contractor has an established non-governmental commercial position and where there is greater likelihood that the invention would be worked and put into civilian use than would be the case if the invention were made more freely available.

Wherever the contractor retains more than a non-exclusive license, the policy would guard against failure to practice the invention by requiring that the contractor take effective steps within three years

after the patent issues to bring the invention to the point of practical application or to make it available for licensing on reasonable terms. The Government would also have the right to insist on the granting of a license to others to the extent that the invention is required for public use by governmental regulations or to fulfill a health need, irrespective of the purpose of the contract.

The attached statement of policy will be reviewed after a reasonable period of trial in the light of the facts and experience accumulated. Accordingly, there should be continuing efforts to monitor, record, and evaluate the practices of the agencies pursuant to the policy guidelines.

This memorandum and the statement of policy shall be published in the FEDERAL REGISTER.

JOHN F. KENNEDY

STATEMENT OF GOVERNMENT PATENT POLICY

BASIC CONSIDERATIONS

A. The government expends large sums for the conduct of research and development which results in a considerable number of inventions and discoveries.

B. The inventions in scientific and technological fields resulting from work performed under government contracts constitute a valuable national resource.

C. The use and practice of these inventions and discoveries should stimulate inventors, meet the needs of the government, recognize the equities of the contractor, and serve the public interest.

D. The public interest in a dynamic and efficient economy requires that efforts be made to encourage the expeditious development and civilian use of these inventions. Both the need for incentives to draw forth private initiatives to this end, and the need to promote healthy competition in industry must be weighed in the disposition of patent rights under government contracts. Where exclusive rights are acquired by the contractor, he remains subject to the provisions of the antitrust laws.

E. The public interest is also served by sharing of benefits of government-financed research and development with foreign countries to a degree consistent with our international programs and with the objectives of U.S. foreign policy.

F. There is growing importance attaching to the acquisition of foreign patent rights in furtherance of the interests of U.S. industry and the government.

G. The prudent administration of government research and development calls for a government-wide policy on the disposition of inventions made under government contracts reflecting common principles and objectives, to the extent consistent with the missions of the respective agencies. The policy must recognize the need for flexibility to accommodate special situations.

POLICY

SECTION 1. The following basic policy is established for all government agencies with respect to inventions or discoveries made in the course of or under any contract of any government agency, subject to specific statutes governing the disposition of patent rights of certain government agencies.

(a) Where

(1) a principal purpose of the contract is to create, develop or improve products, processes, or methods which are intended for commercial use (or which are otherwise intended to be made available for use) by the general public at home or abroad, or which will be required for such use by governmental regulations; or

(2) a principal purpose of the contract is for exploration into fields which directly concern the public health or public welfare; or

(3) the contract is in a field of science or technology in which there has been little significant experience outstide of work funded by the government, or where the government has been the principal developer of the field, and the acquisition of exclusive rights at the time of contracting might confer on the contractor a preferred or dominant position; or

(4) the services of the contractor are

(i) for the operation of a government-owned research or production facility; or

(ii) for coordinating and directing the work of others,

the government shall normally acquire or reserve the right to acquire the principal or exclusive rights throughout the world in and to any inventions made in the course of or under the contract. In exceptional circumstances the contractor may acquire greater rights than a non-exclusive license at the time of contracting, where the head of the department or agency certifies that such action will best serve the public interest. Greater rights may also be acquired by the contractor after the invention has been identified, where the invention when made in the course of or under the contract is not a primary object of the

contract, provided the acquisition of such greater rights is consistent with the intent of this Section 1(a) and is a necessary incentive to call forth private risk capital and expense to bring the invention to the point of practical application.

(b) In other situations, where the purpose of the contract is to build upon existing knowledge or technology to develop information, products, processes, or methods for use by the government, and the work called for by the contract is in a field of technology in which the contractor has acquired technical competence (demonstrated by factors such as know-how, experience, and patent position) directly related to an area in which the contractor has an established nongovermental commercial position, the contractor shall normally acquire the principal or exclusive rights throughout the world in and to any resulting inventions, subject to the government acquiring at least an irrevocable non-exclusive royalty free license throughout the world for governmental purposes.

(c) Where the commercial interests of the contractor are not sufficiently established to be covered by the criteria specified in Section 1(b), above, the determination of rights shall be made by the agency after the invention has been identified, in a manner deemed most likely to serve the public interest as expressed in this policy statement, taking particularly into account the intentions of the contractor to bring the invention to the point of commercial application and the guidelines of Section 1(a) hereof, provided that the agency may prescribe by regulation special situations where the public interest in the availability of the inventions would best be served by permitting the contractor to acquire at the time of contracting greater rights than a non-exclusive license. In any case the government shall acquire at least a non-exclusive royalty free license throughout the world for governmental purposes.

(d) In the situation specified in Sections 1(b) and 1(c), when two or more potential contractors are judged to have presented proposals of equivalent merit, willingness to grant the government principal or exclusive rights in resulting inventions will be an additional factor in the evaluation of the proposals.

(e) Where the principal or exclusive (except as against the government) rights in an invention remain in the contractor, he should agree to provide written reports at reasonable intervals, when requested by the government, on the commercial use that is being made or is intended to be made of inventions made under government contracts.

(f) Where the principal or exclusive (except as against the government) rights in an invention remain in the contractor, unless the contractor, his licensee, or his assignee has taken effective steps within three years after a patent issues on the invention to bring the invention to the point of practical application or has made the invention available

for licensing royalty free or on terms that are reasonable in the circumstances, or can show cause why he should retain the principal or exclusive rights for a further period of time, the government shall have the right to require the granting of a license to an applicant on a non-exclusive royalty free basis.

(g) Where the principal or exclusive (except as aginst the government) rights to an invention are acquired by the contractor, the government shall have the right to require the granting of a license to an applicant royalty free or on terms that are reasonable in the circumstances to the extent that the invention is required for public use by governmental regulations or as may be necessary to fulfill health needs, or for other public purposes stipulated in the contract.

(h) Where the government may acquire the principal rights and does not elect to secure a patent in a foreign country, the contractor may file and retain the principal or exclusive foreign rights subject to retention by the government of at least a royalty free license for governmental purposes and on behalf of any foreign government pursuant to any existing or future treaty or agreement with the United States.

SEC. 2. Government-owned patents shall be made available and the technological advances covered thereby brought into being in the shortest time possible through dedication or licensing and shall be listed in official government publications or otherwise.

SEC. 3. The Federal Council for Science and Technology in consultation with the Department of Justice shall prepare at least annually a report concerning the effectiveness of this policy, including recommendations for revision or modification as necessary in light of the practices and determinations of the agencies in the disposition of patent rights under their contracts. A patent advisory panel is to be established under the Federal Council for Science and Technology to

(a) develop by mutual consultation and coordination with the agencies common guidelines for the implementation of this policy, consistent with existing statutes, and to provide over-all guidance as to disposition of inventions and patents in which the government has any right or interest; and

(b) encourage the acquisition of data by government agencies on the disposition of patent rights to inventions resulting from federally-financed research and development and on the use and practice of such inventions, to serve as basis for policy review and development; and

(c) make recommendations for advancing the use and exploitation of government owned domestic and foreign patents.

SEC. 4 Definitions: As used in this policy statement, the stated terms in signular and plural are defined as follows for the purposes

hereof:

(a) Government agency--includes any Executive department independent commission, board, office, agency, administration, authority, or other government establishment of the Executive Branch of the Government of the United States of America.

(b) "Invention" or "Invention or discovery" -- includes any art, machine, manufacture, design, or composition of matter, or any new and useful improvement thereof, or any variety of plant, which is or may be patentable under the Patent Laws of the United States of America or any foreign country.

(c) Contractor - means any individual, partnership, public or private corporation, association, institution, or other entity which is a party to the contract.

(d) Contract - means any actual or proposed contract, agreement, grant, or other arrangement, or sub-contract entered into with or for the benefit of the government where a purpose of the contract is the conduct of experimental, developmental, or research work.

(e) "Made" - when used in relation to any invention or discovery means the conception or first actual reduction to practice of such invention in the course of or under the contract.

(f) Governmental purpose - means the right of the Government of the United States (including any agency thereof, state, or domestic municipal government) to practice and have practiced (made or have made, used or have used, sold or have sold) throughout the world by or on behalf of the Government of the United States.

(g) "To the point of practical application" -- means to manuafacture in the case of a composition or product, to practice in the case of a process, or to operate in the case of a machine and under such conditions as to establish that the invention is being worked and that is benefits are reasonably accessible to the public.

APPENDIX B

MEMORANDUM AND STATEMENT OF GOVERNMENT PATENT POLICY ISSUED BY PRESIDENT NIXCN ON AUGUST 23, 1971

(Published Federal Register, Vol.36,No. 166,August 26, 1971)

Memorandum for Heads of Executive Departments and Agencies

On October 10, 1963, President Kennedy forwarded to the Heads of the Executive Departments and Agencies a Memorandum and Statement of Government Patent Policy for their guidance in determining the disposition of rights to inventions made under Government-sponsored grants and contracts. On the basis of the knowledge and experience then available, this Statement first established Government-wide objectives and criteria, within existing legislative constraints, for the allocation of rights to inventions between the Government and its contractors.

It was recognized that actual experience under the Policy could indicate the need for revision or modification. Accordingly, a Patent Advisory Panel was established under the Federal Council for Science and Technology for the purpose of assisting the agencies in implementing the Policy, acquiring data on the agencies' operations under the Policy, and making recommendations regarding the utilization of Government-owned patents. In December 1965, the Federal Council established the Committee on Government Patent Policy to assess how this Policy was working in practice, and to acquire and analyze additional information that could contribute to the reaffirmation or modification of the Policy.

The efforts of both the Committee and Panel have provided increased knowledge of the effects of Government patent policy on the public interest. More specifically, the studies and experience over the past seven years have indicated that:

(a) A single presumption of ownership of patent rights to Government-sponsored inventions either in the Government or in its contractors is not a satisfactory basis for Government patent policy, and that a flexible, Government-wide policy best serves the public interest;

(b) The commercial utilization of Government-sponsored inventions, the participation of indistry in Government research and development programs, and commercial competition can be influenced by the following factors: the mission of the contracting agency; the purpose and nature

of the contract; the commercial applicability and market potential of the invention; the extent to which the invention is developed by the contracting agency; the promotional activities of the contracting agency; the commercial orientation of the contractor and the extent of his privately financed research in the related technology; and the size, nature and research orientation of the pertinent industry;

(c) In general, the above factors are reflected in the basic principles of the 1963 Presidential Policy Statement.

Based on the results of the studies and experience gained under the 1963 Policy Statement certain improvements in the Policy have been recommended which would provide (1) agency heads with additional authority to permit contractors to obtain greater rights to inventions where necessary to achieve utilization or where equitable circumstances would justify such allication of rights, (2) additional guidance to the agencies in promoting the utilization of Government-sponsored inventions, (3) clarification of the rights of States and municipal governments in inventions in which the Federal Government acquires a license, and (4) a more definitive data base for evaluating the administration and effectiveness of the Policy and the feasibility and desirability of further refinement or modification of the Policy.

I have approved the above recommendations and have attached a revised Statement of Government Patent Policy for your guidance. As with the 1963 Policy Statement, the Federal Council shall make a continuing effort to record, monitor and evaluate the effects of this Policy Statement. A committee on Government Patent Policy, operating under the aegis of the Federal Council for Science and Technology, shall assist the Federal Council in these matters.

This memorandum and statement of policy shall be published in the Federal Register.

RICHARD M. NIXON

STATEMENT OF GOVERNMENT PATENT POLICY

Basic Considerations

A. The Government expends large sums for the conduct of reasearch and development which results in a considerable number of inventions and discoveries.

B. The inventions in scientific and technological fields resulting from work performed under Government contracts constitute a valuable national resource.

C. The use and practice of these inventions and discoveries should stimulate inventors, meet the needs of the Government, recognize the equities of the contractor, and serve the public interest.

D. The public interest in a dynamic and efficient economy requires that efforts be made to encourage the expeditious development and civilian use of these inventions. Both the need for incentives to draw

forth private initiatives to this end, and the need to promote healthy competition in industry must be weighed in the disposition of patent rights under Government contracts. Where exclusive rights are acquired by the contractor, he remains subject to the provisions of the anti-trust laws.

E. The public interest is also served by sharing of benefits of Government-financed research and development with foreign countries to a degree consistent with our international programs and with the objectives of U.S. foreign policy.

F. There is growing importance attaching to the acquisition of foreign patent rights in furtherance of the interests of U.S. industry and the Government.

G. The prudent administration of Government research and development calls for a Government-wide policy on the disposition of inventions made under Government contracts reflecting common principles and objectives, to the extent consistent with the missions of the respective agencies. The policy must recognize the need for flexibility to accommodate special situations.

Policy

SECTION 1. The following basic policy is established for all Government agencies with respect to inventions or discoveries made in the course of or under any contract of any Government agency, subject to specific statutes governing the disposition of patent rights of certain Government agencies.

(a) Where

(1) a principal purpose of the contract is to create, develop or improve products, processes, or methods which are intended for commercial use (or which are otherwise intended to be made available for use) by the general public at home or abroad, or which will be required for such use by governmental reglations; or

(2) a principal purpose of the contract is for exploration into fields which directly concern the public health, public safety, or public welfare; or

(3) the contract is in a field of science or technology in which there has been little significant experience outside of work funded by the Government, or where the Government has been the principal developer of the field, and the acquisition of exclusive rights at the time of contracting might confer on the contractor a preferred or dominant position; or

(4) the services of the contractor are

(i) for the operation of a Government-owned research or production facility; or

(ii) for coordinating and directing the work of others, the Government shall normally acquire or reserve the right to acquire the principal or exclusive rights throughout the world in and to any inventions made in the course of or under the contract.

In exceptional circumstances the contractor may acquire greater rights than a nonexclusive license at the time of contracting where the head

of the department or agency certifies that such action will best serve the public interest. Greater rights may also be acquired by the contractor after the invention has been identified where the head of the department or agency determines that the acquisition of such greater rights is consistent with the intent of this Section 1(a) and is either a necessary incentive to call forth private risk capital and expense to bring the invention to the point of practical application or that the Government's contribution to the invention is small compared to that of the contractor. Where an identified invention made in the course of or under the contract is not a primary object of the contract, greater rights may also be acquired by the contractor under the criteria of Section 1(c).

(b) In other situations, where the purpose of the contract is to build upon existing knowledge or technology, to develop information, products, processes, or methods for use by the Government, and the work called for by the contract is in a field of technology in which the contractor has acquired technical competence (demonstrated by factors such as know-how, experience, and patent position) directly related to an area in which the contractor has an established nongovernmental commercial position, the contractor shall normally acquire the principal or exclusive rights throughout the world in and to any resulting inventions.

(c) Where the commercial interests of the contractor are not sufficiently established to be covered by the criteria specified in Section 1(b) above, the determination of rights shall be made by the agency after the invention has been identified, in a manner deemed most likely to serve the public interest as expressed in this policy statement, taking particularly into account the intentions of the contractor to bring the invention to the point of commercial application and the guidelines of Section 1(a) hereof, provided that the agency may prescribe by regulation special situations where the public interest in the availability of the inventions would best be served by permitting the contractor to acquire at the time of contracting greater rights than a nonexclusive license.

(d) In the situations specified in Sections 1(b) and 1(c), when two or more potential contractors are judged to have presented proposals of equivalent merit, willingness to grant the Government principal or exclusive rights in resulting inventions will be an additional factor in the evaluation of the proposals.

(e) Where the principal or exclusive rights in an invention remain in the contractor, he should agree to provide written reports at reasonable intervals, when requested by the Government, on the commercial use that is being made or is intended to be made of inventions made under Government contracts.

(f) Where the principal or exclusive rights in an invention remain in the contractor, unless the contractor, his licensee, or his assignee has taken effective steps within three years after a patent issues on the invention to bring the invention to the point of practical application or has made the invention available for licensing royalty-free or on terms that are reasonable in the circumstances, or can show cause why he should retain the principal or exclusive rights for a further period

of time, the Government shall have the right to require the granting of a nonexclusive or exclusive license to a responsible applicant(s) on terms that are reasonable under the circumstances.

(g) Where the principal or exclusive rights to an invention are acquired by the contractor, the Government shall have the right to require the granting of a nonexclusive or exclusive license to a responsible applicant(s) on terms that are reasonable in the circumstances (i) to the extent that the invention is required for public use by governmental regulations, or (ii) as may be necessary to fulfill health or safety needs, or (iii) for other public purposes stipulated in the contract.

(h) Whenever the principal or exclusive rights in an invention remain in the contractor, the Government shall normally acquire, in addition to the rights set forth in Sections 1(e), 1(f), and 1(g),

(1) at least a nonexclusive, nontransferable, paid-up license to make, use, and sell the invention throughout the world by or on behalf of the Government of the United States (including any Government agency) and States and domestic municipal governments, unless the agency head determines that it would not be in the public interest to acquire the license for the States and domestic municipal governments; and

(2) the right to sublicense any foreign government pursuant to any existing or future treaty or agreement if the agency head determines it would be in the national interest to acquire this right; and

(3) the principal or exclusive rights to the invention in any country in which the contractor does not elect to secure a patent.

(i) Whenever the principal or exclusive rights in an invention are acquired by the Government, there may be reserved to the contractor a revocable or irrevocable nonexclusive royalty-free license for the practice of the invention throughout the world; an agency may reserve the right to revoke such license so that it might grant an exclusive license when it determines that some degree of exclusivity may be necessary to encourage further development and commercialization of the invention. Where the Government has a right to acquire the principal or exclusive rights to an invention and does not elect to secure a patent in a foreign country, the Government may permit the contractor to acquire such rights in any foreign country in which he elects to secure a patent, subject to the Government's right set forth in Section 1(h).

SECTION 2. Under regulations prescribed by the Administrator of General Services, Government-owned patents shall be made available and the technological advances covered thereby brought into being in the shortest time possible through dedication or licensing, either exclusive or nonexclusive, and shall be listed in official Government publications or otherwise.

SECTION 3. The Federal Council for Science and Technology in consultation with the Department of Justice shall prepare at least annually a report concerning the effectiveness of this policy, including recommendations for revision or modification as necessary in light of the

practices and determinations of the agencies in the disposition of patent rights under their contracts. The Federal Council for Science and Technology shall continue to

(a) develop by mutual consultation and coordination with the agencies common guidelines for implementation of this policy, consistent with existing statutes, and to provide overall guidance as to disposition of inventions and patents in which the Government has a right or interest; and

(b) acquire data from the Government agencies on the disposition of patent rights to inventions resulting from Federally-financed research and development and on the use and practice of such inventions to serve as bases for policy review and development; and

(c) make recommendations for advancing the use and exploitation of Government-owned domestic and foreign patents. Each agency shall record the basis for its actions with respect to inventions and appropriate contracts under this statement.

SECTION 4. Definitions: As used in this policy statement, the stated terms in singular and plural are defined as follows for the purposes hereof:

(a) Government agency- includes any executive department, independent commission, board, office, agency, administration, authority, Government corporation, or other Government establishment of the executive branch of the Government of the United States of America.

(b) States- means the States of the United States, the District of Columbia, Puerto Rico, the Virgin Islands, American Samoa, Guam and the Trust Territory of the Pacific Islands.

(c) Invention, or Invention or discovery- includes any art, machine, manufacture, design, or composition of matter, or any new and useful improvement thereof, or any variety of plant, which is or may be patentable under the Patent Laws of the United States of America or any foreign country.

(d) Contractor- means any individual, partnership, public or private corporation, association, institution, or other entity which is a party to the contract.

(e) Contract- means any actual or proposed contract, agreement, grant, or other arrangement, or subcontract entered into with or for the benefit of the Government where a purpose of the contract is the conduct of experimental,development, or research work.

(f) Made- when used in relation to any invention or discovery means the conception or first actual reduction to practice of such invention in the course of or under the contract.

(g) To the point of practical application-means to manufacture in the case of a composition or product, to practice in the case of a process, or to operate in the case of a machine and under such conditions as to establish that the invention is being worked and that its benefits are reasonably accessible to the public.

APPENDIX C

SECTIONAL ANALYSIS OF H.R.6933

Subchapter I-Contract Inventions

Section 382. "Contract inventions" reporting

Section 382 defines "contract inventions" and sets forth a contractor's responsibility with regard to a contract invention.

Subsection (a) defines "contract inventions" as "inventions made in the course of or under Federal contracts."

Subsection (b) requires that all contractors provide the responsible Federal agency with timely reports on each contract invention containing sufficient technical information to inform the Government as to the nature of the invention and a list of each country, if any, in which the contractor elects to file a patent application.

The Government is prohibited from publishing or releasing these reports until the earlier of one year from receipt of the invention disclosure or the contractor has had a reasonable time to file a patent application; the Government also must withhold such information from other records or reports. The temporary prohibition on publishing or releasing contractor reports or information is necessary in order to avoid the possible forfeiture of patent protection in some countries. Subsection (c) provides that the responsible agency may deprive a contractor who unreasonably fails to file the reports required by subsection (b) of any or all of the rights it otherwise would have under subchapter I pertaining to the contract invention for which such report has been unreasonably withheld.

Section 383. Allocation of rights- Small businesses and nonprofit organizations

Subsection (a) provides for the acquisition of title to contract inventions by contractors which are either a small business or a nonprofit organization. They would acquire title in each country listed under section (b)(2) of section 382 in which they filed a patent application within a reasonable time; their title would be subject to the Government's minimum rights under section 386 and to march-in rights under section 387.

Subsection (b) provides for acquisition of title to contract inventions by the Government in each country in which a small business or nonprofit organization elects not to file a patent application or fails to file within a reasonable time.

Section 384. Allocation of rights- Other contractors

Subsection (a) provides that a contractor that is not a small business

or nonprofit organization will have four and one-half years from the filing of an invention report under section 382(b) to select one or more fields of use which it intends to commercialized or otherwise acheive public use under an exclusive license; and example of such is making the invention available to others for licensing on reasonable terms and conditions. During the four and one-half year period the contractor will have temporary title to the invention, subject to the Government's right under the Act.

Contractors are encouraged to file field of use lists from time to time, and not wait until the end of the 4½ year period. Each filing will be separately reviewed, and title to the patents in question will not pass to the Government until the filing of the final field of use list, or 4½ years, whichever is earlier.

Commercialization or marketing of products or processes embodying an invention may initially be accomplished by a contractor pricr to reporting his field of use selection to the Government, which is a prerequisite to obtaining an exclusive license under section 384(b) and (c), if the contractor elects to initially commercialize or market such products or processes pursuant to the non-exclusive license provisions of section 385. Upon the contractor thereafter filing the field of use list or lists for such processes or products, such non-exclusive license shall become an exclusive license for the selected fields of use upon the expiration of the 90-day period provided in subsection (c) unless the Government notifies the contractor within such 90-day period of a contrary determination made under subsection (d).

Subsection (b) provides for the contractor to receive and exclusive license in each described field of use if it fields a United States patent application within a reasonable time. The contractor's license is subject to the Government's minimum rights under section 386 and march-in rights under section 387.

Subsection (c) provides that the contractor will automatically acquire an exclusive license for each described field of use by operation of law ninety days after providing the responsible agency with the field of use report required by subsection (a) of section 384 unless the agency earlier notifies the contractor of a contrary determination under subsection (d) of this section with respect to such field of use. In the case, the contractor would acquire an exclusive license by operation of law in all other selected fields of use, if any. The Committee believes that expedition and predictability are two essential ingredients of achieving commercialization of Government funded inventions and therefore intends that the 90-day period be a maximum time not subject to extension even by consent of the Contractor. Also for this reason, it is the Committee's intent that there be a presumption in favor of the contractor receiving such exclusive license, and the Committee intends that contractors shall receive such exclusive licenses except in the most extraordinary of circumstances.

Subsection (d) sets forth the basis for an agency determination that a contractor will not receive an exclusive license in a selected field of use.

The contractor will not acquire an exclusive license in any field of use if the responsible agency determines that the contractor's possession of such license: (1) would impair national security; or (2) would create or maintain a situation inconsistent with the antitrust laws.

Subsection (b) is intended to be permissive and is not intended to result in the creation of special sections or the hiring of additional personnel for its administration. An agency is not required to undertake any determination, perhaps preferring except in extraordinary cases, to await actual experience under the exclusive license to see whether circumstances then justify exercise of a march-in right reserved by section 387. Further, to reduce administative burdens and to increase the security of the contractor in its knowledge that it will receive exclusive rights in the invention, the scope of the agency's inquiry underlying this determination is limited. The agency's review should focus on those unforseen antitrust and national security circumstances of which it has become aware since the time of contracting that might now require it to deny the contractor an exclusive license in a particular field of use. The contractor should not be denied an exclusive license solely on the basis of facts that were known or reasonably foreseeable by the agency at the time of contracting, the agency normally will deviate from the standard patent rights clause so that the contractor will know at that time that it will not receive an exclusive license to practice a forthcoming invention in a particular field of use.

The antitrust provision of subsection (d)(2) and similar provisions throughout the bill are intended to encompass existing judicial interpretations of activities prohibited by the antitrust laws. This provision does not authorize each agency to create its own body of antitrust law or policy; but in applying this provision each agency has the authority, subject to court review, to determine whether questionable conduct does or does not violate existing antitrust laws as judicially interpreted.

Subsection (e) provides that, whenever an agency determines that a contractor will not receive an exclusive license in any field of use, it must include in its determination written reasons, and that the contractor has the right of appeal de novo to the United States Court of Customs and Patent Appeals within sixty days after the determination is issued. The Court of Customs and Patent Appeals is given exclusive jurisdiction to affirm, reverse, or modify the agency determination. The burden of proof rests with the agency. Specifically included is the authority for the court to order the responsible agency to issue an exclusive license to the contractor.

Subsection (f) permits the contractor to obtain title to any contract invention in any foreign country in which the contractor agrees to file a patent application, unless the responsible agency determines that the national interest would be affected adversely, which should not occur except in extraordinary circumstances. However, title will be subject to the Government minimum rights under section 386 and march-in rights

under section 387. If the contractor does not file a patent application within a reasonable time, then the Government may acquire title to patents on the contract invention.

Section 385. Contractor license

Subsection 385 automatically grants a nonexclusive, royalty free license to each contractor complying with subsection (b) of section 382 to practice the contract invention in all countries in which it neither receives title under subsection (a) of section 383 nor has an exclusive license under subsection (b) of section 384. This non-exclusive contractor license may be revoked by the Government only to the extent necessary to grant an exclusive license under sub-chapter III. It is expected that, so long as the contractor is pursuing commercialization of the invention under its nonexclusive license, there would be no occasion to grant an exclusive license, and, therefore, no need to revoke the contractor's non-exclusive license. It is also expected that the contractor's license to practice the invention shall include the right to grant sublicenses of the same scope, and on reasonable terms and conditions, to subsidiaries and affiliates within the corporate structure of the contractor's organization and to existing licensees who the contractor is obligated to license or to assure freedom from infringement liability.

Section 386. Minimum Government rights

Subsection (a) sets forth the minimum rights the Government has in every contract invention, unless waived under the authority of section 388. These minimum rights included:

(1) "The right to require from the contractor written reports on the use of the invention if patented;
(2) A royalty-free worldwide license to practice the invention or have it practiced for the Government; and
(3) The right to license or sublicense state and local governments to practice the invention or have it practiced for them, if the agency determines at the time of contracting that acquisition of this right would serve the national interest."

Subsection (b) requires that whenever the Government has rights in a contract invention, notice to that effect shall be included in each United States patent application and patent on the invention.

Sec. 387. March-in rights.

Section 387 sets forth the basis on which the responsible agency may terminate the contractor's title or exclusive rights with respect to one or more fields of use in any patent on a contract invention; may require the contractor to grant appropriate license or sublicense to responsible applicants; or, if necessary, may grant such licenses or sublicenses itself.

Subsection (a) sets forth the grounds for exercise of the Government's

march-in rights:

(1) If the contractor has not taken and is not expected to take timely and effective action to achieve practical application of the invention in one or more of the fields of use selected;
(2) If necessary to protect the national security;
(3) If necessary to meet requirements for public use specified by Federal regulation;
(4) If continuation of the contractor's rights in the invention would create or maintain a situation inconsistent with the antitrust laws; or
(5) If the contractor has failed to comply with the reporting requirements of this Act with respect to such invention.

The Government may march in only in a field of use which gives rise to one or more of the situations described in the above five paragraphs. The fact that a contractor's behavior does not give rise to such a situation with respect to some fields of use will not prevent the Government from marching in another field of use.

This section is intended to continue existing practice and the Committee intends that agencies continue to use the march-in provisions in as a restrained and judicious manner as in the past.

Subsection (b) permits the responsible agency to exercise its march-in rights either on its own initiative or in response to a petition from an interested person justifying such action. Agency failure to initiate a march-in proceeding in response to a petition is not a determination appealable to the United States Court of Customs and Patent Appeals under section 407.

Subsection (c) enables an agency to specify reasonable licensing terms whenever, in exercise of its march-in rights, it requires a contractor to grant a license or sublicense.

Section 388. Deviation and waiver

Section 388 permits Federal agencies, to further an agency's mission and the public interest, to deviate from any standard patent rights clause issued under section 390 acquiring more or fewer rights to a contract invention.

Subsection (a) authorizes deviations either on a class basis in accordance with regulations to be issued under section 390, or, unless prohibited by those regulations, under regulations issued by an agency itself. Case-by-case deviations are permitted when authorized by the head of an agency or a designee, and described in the Federal Register. The Committee intends that agencies normally will not deviate and especially so in respect of contracts dealing with the development of defense related technology.

Subsection (b) forbids waiver under any circumstances of the national security and antitrust march-in rights reserved by sections 387(a)(2), 387(a)(4), and 387(c).

Subsection (c) forbids waiver of rights reserved by sections 384(a), and 387(a)(1), in contracts involving co-sponsored, costsharing, or joint venture research to which the Contractor makes a substantial

contribution of funds, technology, facilities, or equipment; or (2) in contracts with a contractor whose participation is necessary for the successful accomplishment of an agency mission and such contract cannot be obtained under the standard patent rights clause.

Section 389. Transfer of rights to contractor employees

Section 389 authorized a contractor's employee-inventor to receive some or all of the contractor's rights to a contract invention if the responsible agency and the contractor approve. The corresponding obligations of the contractor under subchapter I then become the obligations of the employee.

Section 390. Regulations and Standard patent rights clause

Subsection 390(a) requires the Office of Federal Procurement Policy to direct the issuance of regulations implementing sub-chapter I, including the establishment of a standard patent rights clause or clauses.
Subsections (b), (c) and (d) require a sharing of the royalties and/or revenues with the Government to pay the Government for Federal funding of research and development. Regulations to be developed may permit waiver of some or all of this payment.

Subchapter II-Inventions of Federal Employees

Section 391. Employee inventions

Section 391 defines "employee inventions" as inventions made by Federal employees.

Section 392. Reporting of inventions

Section 392(a) requies that a Federal employee report to the employee's agency all inventions made while an employee of that agency. The Government is prohibited from publishing or releasing these reports until the earlier of one year after their receipt or the final disposition of rights under this subchapter.

Section 393. Criteria for the allocation of rights

Section 393 establishes the criteria for allocation of invention rights between the Government and its employee-inventor. Basically, the allocation depends upon the relationship of the invention to the employee's work and the use of Government resources.
Paragraph (1) provides for Government acquisition of all invention rights if the invention bears a direct relation to the duties of the employee inventor or was made in consequence of the employee's employment.

Paragraph (2) provides that, where the invention neither bears a direct relation to the employee's duties nor was made in consequence of the employee's employment, but was made with a contribution of Federal resources, the employee may receive all rights in the invention subject to a nonexclusive royalty-free worldwide license to the Government to practice the invention or have it practiced for the Government as well as to sublicense State, local, or foreign governments if acquisition of this right would serve the national interest.

Paragraph (3) permits the Government to waiver to the employee its rights under paragraph (1) of this section, subject to the Government license described in paragraph (2) of this section.

Paragraph (4) requires the Government to acquire all rights in any invention if the national security might be impaired should the employee-inventor receive rights to it, notwithstanding the provisions of paragraphs (2) or (3) of this section.

Paragraph (5) entities an employee-inventor to all rights in an invention made by the employee not covered by paragraphs (1), (2), or (3) of this section.

Paragraph (6) permits the Government to enter into agreements allocating rights in inventions resulting from research and development to which other parties have contributed substantially, notwithstanding paragraph (1) of this section.

Section 394. Presumptions

Section 394 establishes rebuttable presumptions for the application of the criteria set forth in section 393.

Subsection (a) sets out employee duties which establish a rebuttable presumption that an invention falls within the criteria of paragraph (1) of section 393. Thus, for example, if an employee is assigned to conduct research and development work, it is presumed that the Government will have the right to title in any invention made.

Subsection (b) establishes a rebuttable presumption that an invention made by an employee whose duties fall outside those listed in paragraph (a) of this section falls within the criteria of paragraph (2) of section 393, reserving to the employee title to an employee-invention subject to certain license rights in the Government.

Section 395. Review of agency determinations

Section 395 provides for the review of Federal agency determinations regarding the respective rights of the Government and a Federal employee-inventor in situations in which the agency determines nct to acquire all rights in an invention or where an aggrieved employee-inventor requests review. The review is to be conducted according to regulations issued under section 399.

Section 396. Reassignment of rights

Section 396 establishes a right in the Government to adjust the rights acquired from a Federal employee-inventor on the basis of evidence that

the granting of greater rights to the employee-inventor is necessary to correct an inequitable allocation of rights.

Section 397. Incentive awards program

Subsection (a) provides Federal agencies the right to establish an incentive awards program which is intended to monetarily recognize Federal employee-inventors, stimulate innovative creativeness and encourage disclosures of inventions which in turn will enhance the possibility of utilization through the Federal licensing program established under subchapter III.

Subsection (b) sets forth the criteria for making an award.

Subsection (c), (d), and (e) establish the procedures for making awards of different amounts.

Subsection (f) provides that acceptance of a cash reward constitutes an agreement by the employee-inventor that any use by the Government of an invention for which an award is made does not form the basis of a further claim of any nature against the Government by the recipient, his heirs, or assigns.

Subsection (g) requires that an award should be paid from the fund or appropriation of the agency primarily benefitting.

Section 398. Income sharing from patent licenses

Section 398 authorizes Federal agencies to share income from licensing the Government's patent rights with the employee-inventor.

Section 399. Regulations

Subsection (a) makes the Secretary of Commerce responsible for issuing regulations to implement subchapter II.

Subsection (b) provides that determination concerning a Federal employee's promotion of the employee's invention is subject to regulations to be prescribed by the Secretary of Commerce with the concurrence of the Office of Government Ethics and the Attorney General. The intention is to ensure that a Federal employee will not be prohibited from promoting his own invention if consistent with conflict of interests regulations.

Subchapter III-Licensing of Federally Owned Inventions

Section 400. Covered inventions

Section 400 provides that subchapter III applies to all federally-owned patent rights, including licenses or sublicenses granted or required to be granted by the Government under section 387, upon or after exercise of the march-in provisions. However it does not apply to licenses established by the other sections of subchapter I.

Section 401. Exclusive or partially exclusive licenses

Section 401 sets out terms and conditions under which a Federal agency may grant an exclusive or partially exclusive license.

Subsection (a) provides that an exclusive or partially exclusive domestic license not automatically granted under section 384 may be granted only after public notice and opportunity for filing written objections and only if the responsible agency determines that such licensing is necessary to achieve practical application of the invention and that the scope of proposed exclusivity is not greater than reasonably necessary.

Subsection (b) provides that an exclusive or partially exclusive foreign license may be granted only after public notice and opportunity for filing written objections and after a determination whether the interests of the Government or of United States industry in foreign commerce will be enhanced.

Subsection (c) prohibits the granting of a license under this section if the responsible agency determines that the grant would create or maintain a situation inconsistent with the antitrust laws.

Subsection (d) requires Federal agencies to maintain publicly available, periodically updated records of their determinations to grant exclusive or partially exclusive licenses.

Section 402. Minimum Government rights

Section 402 sets forth the minimum rights the Government is to have in every exclusive or partially exclusive license. These minimum rights include:

(1) "The right to require from the licensee written reports on the use of the invention;
(2) A royalty-free, worldwide right to practice the invention or have it practiced for the Government; and
(3) The right to license State and local, to practice the invention or have it practiced for them if the agency determines that reservation of this right would serve the national interest."

Section 403. March-in rights

Section 403 sets forth the basis on which the responsible agency may terminate an exclusive or partially exclusive license.

Subsection (a) sets forth the grounds for such termination.

(1) "If the licensee has not taken and is not expected to take timely and effective action to acheive practical application of the invention in the fields of use affected;
(2) If necessary to protect national security;
(3) If necessary to meet requirements for public use specified by Federal regualtion;
(4) Continuation of licensee's rights in the invention would create or maintain a situation inconsistent with the antitrust laws; or

(5) If the licensee has failed to comply with the terms of the license."

Subsection (b) permits the responsible agency to exercise its march-in rights either on its own initiative or in response to a petition from an interested person.

Section 404. Regulations

Section 404 makes the Office of Federal Procurement Policy responsible for directing the issuance of regulations specifying the terms and conditions upon which federally-owned patent rights may be licensed. Agencies are permitted to deviate from such regulations on a class basis unless prohibited by the Office of Federal Procurement Policy.

Subchapter IV -Miscellaneous

Section 405. Patent enforcement suits and right of intervention

Subsection 405(a) provides for enforcement of an exclusive license under the chapter by an exclusive licensee without the necessity of joining the United States or any other exclusive licensee as a party. The intention is to make the exclusive license the functional equivalent of title within the specified fields of use. However, the Attorney General and the agency that granted the license must be given prompt notice of the suit and served copies of papers as though they were parties to the suit.

Subsection (b) requres the responsible agency to notify all of its exclusive licensees of any suit by an exclusive licensee, the Government, or another person. One intention of section 405 is to provide for the adjudication of the infringement and validity of a Government-owned patent subject to this Act without the necessity of the United States appearing before the court as a party.

Section 406. Background rights

"Background rights" refer to patent rights on non-contract inventions, those inventions which did not result from federally funded research but which may relate to the work object of a funding agreement. The committee does not contemplate that funding agreements may require the contractor to license such invention (not developed with Federal funds) to third parties. Moreover retention of background rights by Federal agencies is not considered by your committee to be consistent with the intent of this bill.

The problem of "background rights" has seriously disadvantaged certain businesses, primarily small businesses, which bid on government research and development contracts. Background rights refer to patent rights on non-contract inventions, those inventions which did not result from federally funded research, but which may relate to the work object of a

funding agreement. Background rights constitute valuable property to many businesses, particularly to small firms; however, some agencies have routinely and unnecessarily required that contractors sign away their exclusive rights to background inventions as a cost of doing business with the Government. The retention of background rights by Federal agencies must be curbed unless such use is clearly justified by a national need.

Section 407. Notice, hearing, and judicial review

Subsection (a) requires that agency determinations under sections 382, 387(a) and 387(c), and 403, must have written reasons and be preceded by public notice and an opportunity for a hearing in which the United States, any agency, and any interested person may participate.

Subsection (b) permits the United States or an adversely affected participant to appeal a subsection (a) determination to the United States Court of Customs and Patent Appeals within sixty days after it is issued. The Court of Customs and Patent Appeals is given exclusive jurisdiction to determine the matter de novo, affirming, reversing, or modifying the agency determination. The burden of proof shall rest with the agency.

Section 408. Relationship to other laws

Section 408 is intended to remove any implication that the act provides immunity from the antitrust laws.

Section 409. Authority of Federal agencies

Subsections (a), (b), (c), (d), (e), and (f) set forth the authority of Federal agencies to protect patent rights at home and abroad in--"any invention in which the Government has an interest in order to promote the use of inventions having significant commercial potential or otherwise advance the national interest"-to license federally-owned patent rights; to transfer patent rights to and accept transfers of patent rights from other agencies without regard to the property transfer procedures required by the Federal Property and Administrative Services Act of 1949 (40 U.S.C. 471); to withhold publication or release of information disclosing any invention long enough for patent applications tc be filed; to promote the licensing of federally-owned patent rights; and to enter into contracts to accomplish the purpose of this section.

Section 410. Responsibilities of the Secretary of Commerce

Section 410 provides the authorities necessary for the Department of Commerce effectively to assist other Federal agencies administer the licensing of federally-owned inventions. Paragraph(a)(2) authorizes the Secretary of Commerce to coordinate a program to help agencies carry out their authorities under section 409.

Paragraph (a)(6) authorizes the Secretary to publish notices of all federally-owned patent rights available for licensing.

Paragraph (a)(3) authorizes the Secretary to evaluate inventions referred to it by Federal agencies in order to identify those inventions with the greatest commercial potential.

Paragraph (a)(5) authorizes the Secretary to develop and manage a government-wide program, with private sector participation, to stimulate transfer to the private sector of potentially valuable federally-owned technology through the dissemination of information about the technology.

Paragraph (a)(4) authorizes the Secretary to assist the Federal agencies in seeking and maintaining patent protection in any country, including the payment of fees and costs.

Paragraph (a)(1) authorizes the Secretary to consult with the Federal agencies about areas of science and technology with commercial potential.

Paragraph (a)(7) requires the Secretary, seven years after the date of enactment of the Act, to report on its operative effect to the Congress.

APPENDIX D

TEXT OF P.L. 96-517

NINETY-SIXTH CONGRESS OF THE UNITED STATES OF AMERICA

AT THE SECOND SESSION

Begun and held at the City of Washington on Thursday, the third day of January, one thousand nine hundred and eighty

AN ACT

To amend the patent and trademark laws

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That title 95 of the United States Code, entitled "Patents", is amended by adding after chapter 29 the following new chapter 30:

"CHAPTER 30 - PRIOR ART CITATIONS TO OFFICE AND REEXAMINATION OF PATENTS

"Sec.
"301. Citation of prior art.
"302. Request for reexamination.
"303. Determination of issue by Commissioner.
"304. Reexamination order by Commissioner.
"305. Conduct of reexamination proceedings.
"306. Appeal.
"307. Certificate of patentability, unpatentability, and claim cancellation.

"S301. Citation of prior art

"Any person at any time may cite to the Office in writing prior art consisting of patents or printed publications which that person believes to have a bearing on the patentability of any claim of a particular patent. If the person explains in writing the pertinency and manner of applying such prior art to at least one claim of the patent, the citation of such prior art and the explanation thereof will become a part of the official file of the patent. At the written request of the person citing the prior art, his or her identity will be excluded from the patent file and kept confidential.

"S302. Request for reexamination

"Any person at any time may file a request for reexamination by the Office of any claim of a patent on the basis of any prior art cited

under the provisions of section 301 of this title. The request must be in writing and must be accompanied by payment of a reexamination fee established by the Commissioner of Patents pursuant to the provisions of section 41 of this title. The request must set forth the pertinency and manner of applying cited prior art to every claim for which reexamination is requested. Unless the requesting person is the owner of the patent, the Commissioner promptly will send a copy of the request to the owner of record of the patent.

"S303. Determination of issue by Commissioner

"(a) Within three months following the filing of a request for reexamination under the provisions of section 302 of this title, the Commissioner will determine whether a substantial new question of patentability affecting any claim of the patent concerned is raised by the request, with or without consideration of other patents or printed publications. On his own initiative, and any time, the Commissioner may determine whether a substantial new question of patentability is raised by patents and publications discovered by him or cited under the provisions of section 301 of this title.

"(b) A record of the Commissioner's determination under subsection (a) of this section will be placed in the official file of the patent, and a copy promptly will be given or mailed to the owner of record of the patent and to the person requesting reexamination, if any.

"(c) A determination by the Commissioner pursuant to subsection (a) of this section that no substantial new question of patentability has been raised will be final and nonappealable. Upon such a determination, the Commissioner may refund a portion of the reexamination fee required under section 302 of this title.

"S304. Reexamination order by Commissioner

"If, in a determination made under the provisions of subsection 303(a) of this title, the Commissioner finds that a substantial new question of patentability affecting any claim of a patent is raised, the determination will include an order for reexamination of the patent for resolution of the question. The patent owner will be given a reasonable period, not less than two months from the date a copy of the determination is given or mailed to him, within which he may file a statement on such question, including any amendment to his patent and new claim or claims he may wish to propose, for consideration in the reexamination. If the patent owner files such a statement, he promptly will serve a copy of it on the person who has requested reexamination under the provisions of section 302 of this title. Within a period of two months from the date of service, that person may file and have considered in the reexamination a reply to any statement filed by the patent owner. That person promptly

will serve on the patent owner a copy of any reply filed.

"S305. Conduct of reexamination proceedings

"After the times for filing the statement and reply provided for by section 304 of this title have expired, reexamination will be conducted according to the procedures established for initial examinantion under the provisions of sections 132 and 133 of this title. In any reexamination proceeding under this chapter, the patent owner will be permited to propose any amendment to his patent and a new claim or claims thereto, in order to distinguish the invention as claimed from the prior art cited under the provisions of section 301 of this title, or in response to a decision adverse to the patentability of a claim cf a patent. No proposed amended or new claim enlarging the scope of a claim of the patent will be permitted in a reexamination proceeding under this chapter. All reexamination proceedings under this section, including any appeal to the Board of Appeals, will be conducted with special dispatch within the Office.

"S306. Appeal

"The patent owner involved in a reexamination proceeding under this chapter may appeal under the provisions of section 134 of this title, and may seek court review under the provisions of sections 141 to 145 of this title, with respect to any decision adverse to the patentability of any original or proposed amended or new claim of the patent.

"S307. Certificate of patentability, unpatentability, and claim cancellation

"(a) In a reexamination proceeding under this chapter, when the time for appeal has expired or any appeal proceeding has terminated, the Commissioner will issue and publish a certificate canceling any claim of the patent finally determined to be unpatentable, confirming any claim of the patent determined to be patentable, and incorporating in the patent any proposed amended or new claim determined to be patentable.

"(b) Any proposed amended or new claim determined to be patentable and incorporated into a patent following a reexamination proceeding will have the same effect as that specified in section 252 of this title for reissued patents on the right of any person who made, purchased, or used anything patented by such proposed amended or new claim, or who made substantial preparation for the same, prior to issuance of a certificate under the provisions of subsection (a) of this section."

SEC 2. Section 41 of title 35, United States Code, is amended to read as follows"

"S41. Patent fees

"(a) The Commissioner of Patents will establish fees for the processing of an application for a patent, from filing through disposition by issuance or abandonment, for maintaining a patent in force, and for providing

all other services and materials related to patents. No fee will be established for maintaining a design patent in force.

"(b) By the first day of the first fiscal year beginning on or after one calendar year after enactment of this Act, fees for the actual processing of an application for a patent, other than for a design patent, from filing through disposition by issuance or abandonment, will recover in aggregate 25 per centum of the estimated average cost to the Office of such processing. By the first day of the first fiscal year beginning on or after one calendar year after enactment, fees for the processing of an application for a design patent, from filing through disposition by issuance or abandonment, will recover in aggregate 50 per centum of the estimated average cost to the Office of such processing.

"(c) By the fifteenth fiscal year following the date of enactment of this Act, fees for maintaining patents in force will recover 25 per centum of the estimated cost to the Office, for the year in which such maintenance fees are received, of the actual processing all applications for patents, other than for design patents, from filing through disposition by issuance or abandonment. Fees for maintaining a patent in force will be due three years and six months, seven years and six months, and eleven years and six months after the grant of the patent. Unless payment of the applicable maintenance fee is received in the Patent and Trademark Office on or before the date the fee is due or within a grace period of six months thereafter, the patent will expire as of the end of such grace period. The Commissioner may require the payment of a surcharge as a condition of accepting within such six-month grace period the late payment of an applicable maintenance fee.

"(d) By the first day of the first fiscal year beginning on or after one calendar year after enactment, fees for all other services or materials related to patents will recover the estimated average cost to the Office of performing the service or furnishing the material. The yearly fee for providing a library specified in section 13 of this title with uncertified printed copies of the specifications and drawings for all patents issued in that year will be $50.

"(e) The Commissioner may waive the payment of any fee for any service or material related to patents in connection with an occasional or incidental request made by a department or agency of the Government, or any officer thereof. The Commissioner may provide any applicant issued a notice under section 132 of this title with a copy of the specifications and drawings for all patents referred to in that notice without charge.

"(f) Fees will be adjusted by the Commissioner to achieve the levels of recovery specified in this section; however, no patent application processing fee or fee for maintaining a patent in force will be adjusted more than once every three years.

"(g) No fee established by the Commissioner under this section will take effect prior to sixty days following notice in the Federal Register."

SEC. 3. Section 42 of title 35, United States Code, is amended to read as follows:

"S42. Patent and Trademark Office funding

"(a) All fees for services performed by or materials furnished by the Patent and Trademark Office will be payable to the Commissioner.

"(b) All fees paid to the Commissioner and all appropriations for defraying the costs of the activities of the Patent and Trademark Office will be credited to the Patent and Trademark Office Appropriation Account in the Treasury of the United States, the provisions of section 725e of title 31, United States Code, notwithstanding.

"(c) Revenues from fees will be available to the Commissioner of Patents to carry out, to the extent provided for in appropriation Acts, the activities of the Patent and Trademark Office.

"(d) The Commissioner may refund any fee paid by mistake or any amount paid in excess of that required."

SEC 4. Section 154 of title 35, United States Code, is amended by deleting the work "issue".

SEC 5. Section 31 of the Trademark Act of 1946, as amended (15 U.S.C. 1113), is amended to read as follows:

"S31. Fees

"(a) The Commissioner of Patents will establish fees for the filing and processing of an application for the registration of a trademark or other mark and for all other services performed by and materials furnished by the Patent and Trademark Office related to trademarks and other marks. Fees will be set and adjusted by the Commissioner to recover in aggregate 50 per centum of the estimated average cost to the Office of such processing. Fees for all other services or materials related to trademarks and other marks will recover the estimated average cost to the Office of performing the service or furnishing the material. However, no fee for the filing or processing of an application for the registration of a trademark or other mark or for the renewal or assignment of a trademark or other mark will be adjusted more than once every three years. No fee established under this section will take effect prior to sixty days following notice in the Federal Register.

"(b) The Commissioner may waive the payment of any fee for any service or material related to trademarks or other marks in connection with an occasional request made by a department or agency of the Government, or any officer thereof. The Indian Arts and Crafts Board will not be charged any fee to register Government trademarks of genuineness and quality for Indian products or for products of particular Indian tribes and groups".

SEC 6. (a) Title 35 of the United States Code, entitled "Patents" is amended by adding after chapter 37 the following new chapter 38:

CHAPTER 38 - PATENT RIGHTS IN INVENTIONS MADE WITH FEDERAL ASSISTANCE

"Sec.
"200. Policy and objective.
"201. Definitions.
"202. Disposition of rights.
"203. March-in rights.
"204. Preference for United States industry.
"205. Confidentiality.
"206. Uniform clauses and regualtions.
"207. Domestic and foreign protection of federally owned inventions.
"208. Regulations governing Federal licensing.
"209. Restrictions on licensing of federally owned inventions.
"210. Precedence of chapter.
"211. Relationship to antitrust laws.

"S200. Policy and objective

"It is the policy and objective of the Congress to use the patent system to promote the utilization of inventions arising from federally supported research or development; to encourage maximum participation of small business firms in federally supported research and development efforts; to promote collaboration between commercial concerns and nonprofit organizations, including universities; to ensure that inventions made by nonprofit organizations and small business firms are used in a manner to promote free competition and enterprise; to promote the commercialization and public availability of inventions made in the United States by United States industry and labor; to ensure that the Government obtains sufficient rights in federally supported inventions to meet the needs of the Government and protect the public against nonuse or unreasonable use of inventions; and to minimize the costs of administering policies in this area.

"S201. Definitions

"As used in this chapter--

"(a) The term 'Federal agency' means any executive agency as defined in section 105 of title 5, United States Code, and the military departments as defined by section 102 of title 5, United States Code.

"(b) The term 'funding agreement' means any contract, grant, or cooperative agreement entered into between any Federal agency, other than the Tennessee Valley Authority, and any contractor for the performance of experimental, developmental, or research work funded in whole or in part by the Federal Government. Such term includes any assginment, substitution of parties, or subcontract of any type entered into for this performance of experimental, developmental, or research work under a funding agreement as herein defined.

"(c) The term 'contractor' means any person, small business firm, or nonprofit organization that is a party to a funding agreement.

"(d) The term 'invention' means any invention or discovery which is or may be patentable or otherwise protectable under this title.

"(e) The term 'subject invention' means any invention of the contrator conceived or first actually reduced to practice in the performance of work under a funding agreement.

"(f) The term 'practical application' means to manufacture in the case of a composition or product, to practice in the case of a process or method, or to operate in the case of a machine or system; and, in each case, under such conditions as to establish that the invention is being utilized and that its benefits are to the extent permitted by law or Government regulations available to the public on reasonable terms.

"(g) The term 'made' when used in relation to any invention means the conception or first actual reduction to practice of such invention.

"(h) The term 'small business firm' means a small business concern as defined at section 2 of Public Law 85-536 (15 U.S.C. 632) and implementing regulations of the Administrator of the Small Business Administration.

"(i) The term 'nonprofit organization' means universities and other institutions of higher education or an organization of the type described in section 501(cX3) of the Internal Revenue Code of 1954 (26 U.S.C. 501(c)) and exempt from taxation under section 501(a) of the Internal Revenue Code (26 U.S.C. 501(a)) or any nonprofit scientific or educational organization qualified under a State nonprofit organization statute.

"S202. Disposition of rights

"(a) Each nonprofit organization or small business firm may, within a reasonable time after disclosure as required by paragraph (cX1) of this section, elect to retain title to any subject invention: Provided, however, That a funding agreement may provide otherwise (i) when the funding agreement is for the operation of a Government-owned research or production facility, (ii) in exceptional circumstances when it is determined by the agency that restriction or elimination of the right to retain title to any subject invention will better promote the policy and objectives of this chapter or (iii) when it is determined by a Government-authority which is authorized by statute or Executive order to conduct foreign intelligence or counter-intelligence activities that the restriction or elimination of the right to retain title to any subject invention is necessary to protect the security of such activities. The rights of the nonprofit organization or small business firm shall be subject to the provisions of paragraph (c) of this section and the other provisions of this chapter.

"(b)(1) Any determination under (ii) of paragraph (a) of this section shall be in writing and accompanied by a written statement of facts

justifying the determination. A copy of each such determination and justification shall be sent to the Comptroller General of the United States within thirty days after the award of the applicable funding agreement. In the case of determinations applicable to funding agreements with small business firms copies shall also be sent to the Chief Counsel for Advocacy of the Small Business Administration.

"(2) If the Comptroller General beleves that any pattern of determinations by a Federal agency is contrary to the policy and objectives of this chapter or that an agency's policies or practices are otherwise not in conformance with this chapter, the Comptroller General shall so advise the head of the agency. The head of the agency shall advise the Comptroller General in writing within one hundred and twenty days of what action, if any, the agency has taken or plans to take with respect to the matters raised by the Comptroller General.

"(3) At least once each year, the Comptroller General shall transmit a report to the Committees on the Judiciary of the Senate and House of Representatives on the manner in which this chapter is being implemented by the agencies and on such other aspects of Government patent policies and practices with respect to federally funded inventions as the Comptroller General believes appropriate.

"(c) Each funding agreement with a small business firm or nonprofit organization shall contain appropriate provisions to effectuate the following:

"(1) A requirement that the contractor disclose each subject invention to the Federal agency within a reasonable time after it is made and that the Federal Government may receive title to any subject invention not reported to it within such time.

"(2) A requirement that the contractor make an election to retain title to any subject invention within a reasonable time after disclosure and that the Federal Government may receive title to any subject invention in which the contractor does not elect to retain rights or fails to elect rights within such time.

"(3) A requirement that a contractor electing rights file patent applications within reasonable times and that the Federal Government may receive title to any subject inventions in the United States or other countries in which the contractor has not filed patent applications on the subject invention within such times.

"(4) With respect to any invention in which the contractor elects rights, the Federal agency shall have a nonexclusive, nontransferable, irrevocable, paid-up license to practice or have practiced for or on behalf of the United States any subject invention throughout the world, and may, if provided in the funding agreement, have additional rights to sublicense any foreign government or international organization pursuant to any existing or future treaty or agreement.

"(5) The right of the Federal agency to require periodic reporting on the utilization or efforts at obtaining utilization that are being made by the contractor or his licensees or assignees: Provided, That any such information may be treated by the Federal agency as commercial and financial information obtained from a person and privileged and confidential and not subject to disclosure under section 552

of title 5 of the United States Code.

"(6) An obligation on the part of the contractor, in the event a United States patent application is filed by or on its behalf or by any assignee of the contractor, to include within the specification of such application and any patent issuing thereon, a statement specifying that the invention was made with Government support and that the Government has certain rights in the invention.

"(7) In the case of a nonprofit organization, (A) a prohibition upon the assignment of rights to a subject invention in the United States without the approval of the Federal agency, except where such assignment is made to an organization which has as one of its primary functions the management of inventions and which is not, itself, engaged in or does not hold a substantial interest in other organizations engaged in the manufacture or sale of products or the use of processes that might utilize the invention or be in competition with embodiments of the invention (provided that such assignee shall be subject to the same provisions as the contractor); (B) a prohibition against the granting of exclusive licenses under United States Patents or Patent Applications in a subject invention by the contractor to persons other than small business firms for a period in excess of the earlier of five years from first commercial sale or use of the invention or eight years from the date of the exclusive license excepting that time before regulatory agencies necessary to obtain premarket clearance unless, on a case-by-case basis, the Federal agency approves a longer exclusive license. If exclusive field of use licenses are granted, commercial sale or use in one field of use shall not be deemed commercial sale or use to other fields of use, and a first commercial sale or use with respect to a product of the invention shall not be deemed to end the exclusive period to different subsequent products covered by the invention; (C) a requirement that the contractor share royalties with the inventor; and (D) a requirement that the balance of any royalties or income earned by the contractor with respect to subject inventions, after payment of expenses (including payments to inventors) incidental to the administration of subject inventions, be utilized for the support of scientific research or education.

"(8) The requirements of sections 203 and 204 of this chapter.

"(d) If a contractor does not elect to retain title to a subject invention in cases subject to this section, the Federal agency may consider and after consultation with the contractor grant requests for retention of rights by the inventor subject to the provisions of this Act and regulations promulgated hereunder.

"(e) In any case when a Federal employee is a coinventor of any invention made under a funding agreement with a nonprofit organization or small business firm, the Federal agency employing such coinventor is authorized to transfer or assign whatever rights it may acquire in the subject invention from its employee to the contractor subject to the conditions set forth in this chapter.

"(f)(1) No funding agreement with a small business firm or nonprofit organization shall contain a provision allowing a Federal agency to require the licensing to third parties of inventions owned by the contractor that are not subject inventions unless such provision has been approved

by the head of the agency and a written justifcation has been signed by the head of the agency. Any such provision shall clearly state whether the licensing may be required in connection with the practice of a subject invention, a specifically identified work object, or both. The head of the agency may not delegate the authority to approve provisions or sign justifications required by this paragraph.

"(2) A Federal agency shall not require the licensing of third parties under any such provision unless the head of the agency determines that the use of the invention by others is necessary for the practice of a subject invention or for the use of a work object of the funding agreement and that such action is necessary to achieve the practical application of the subject invention or work object. Any such determination shall be on the record after an opportunity for an agency hearing. Any action commenced for judicial review of such determination shall be brought within sixty days after notification of such determination.

"S203. March-in rights

"With respect to any subject invention in which a small business firm or nonprofit organization has acquired title under this chapter, the Federal agency under whose funding agreement the subject invention was made shall have the right, in accordance with such procedures as are provided in regulations promulgated hereunder to require the contractor, an assignee or exclusive licensee of a subject invention to grant a nonexclusive, partially exclusive, or exclusive license in any field of use to a responsible applicant or applicants, upon terms that are reasonable under the circumstances, and if the contractor, assignee, or exclusive licensee refuses such request, to grant such a license itself, if the Federal agency determines that such-

"(a) action is necessary because the contractor or assignee has not taken, or is not expected to take within a reasonable time, effective steps to achieve practical application of the subject invention in such field of use;

"(b) action is necessary to alleviate health or safety needs which are not reasonably satisfied by the contractor, assignee, or their licensees;

"(c) action is necessary to meet requirements for public use specified by Federal regulations and such requirements are not reasonably satisfied by the contractor, assignee, or licensees; or

"(d) action is necessary because the agreement required by section 204 has not been obtained or waived or because a licensee of the exclusive right to use or sell any subject invention in the United States is in breach of its agreement obtained pursuant to section 204.

"S204. Preference for United States Industry

"Notwithstanding any other provision of this chapter, no small business firm or nonprofit organization which receives title to any subject invention and no assignee of any such small business firm or nonprofit organization shall grant to any person the exclusive right to use or sell any subject invention in the United States unless such person agrees that any products embodying the subject invention or produced through the use

of the subject invention will be manufactured substantially in the United States. However, in individual cases, the requirement for such an agreement may be waived by the Federal agency under whose funding agreement the invention was made upon a showing by the small business firm, nonprofit organization, or assignee that reasonable but unsuccessful efforts have been made to grant licenses on similar terms to potential licensees that would be likely to manufacture substantially in the United States or that under the circumstances domestic manufacture is not commercially feasible.

"S205. Confidentiality

"Federal agencies are authorized to withhold from disclosure to the public information disclosing any invention in which the Federal Government owns or may own a right, title, or interest (including a nonexclusive license) for a reasonable time in order for a patent application to be filed. Furthermore, Federal agencies shall not be required to release copies of any document which is part of an application for patent filed with the United States Patent and Trademark Office or with any foreign patent office.

"S206. Uniform clauses and regulations

"The Office of Federal Procurement Policy, after receiving recommendations of the Office of Science and Technology Policy, may issue regulations which may be made applicable to Federal agencies implementing the provisions of sections 202 through 204 of this chapter and the Office of Federal Procurement Policy shall establish standard funding agreement provisions required under this chapter.

"S207. Domestic and foreign protection of federally owned inventions

"Each Federal agency is authorized to-

"(1) apply for, obtain, and maintain patents or other forms of protection in the United States and in foreign countries on inventions in which the Federal Government owns a right, title, or interest;

"(2) grant nonexclusive, exclusive, or partially exclusive licenses under federally owned patent applications, patents, or other forms of protection obtained, royalty-free or for royalties or other consideration, and on such terms and conditions, including the grant to the licensee of the right of enforcement pursuant to the provisions of chapter 29 of this title as determined appropriate in the public interest;

"(3) undertake all other suitable and necessary steps to protect and administer rights to federally owned inventions on behalf of the Federal Government either directly or through contract; and

"(4) transfer custody and administration, in whole or in part, to another Federal agency, of the right, title or interest in any federally owned invention.

"S208. Regulations governing Federal licensing

"The Administrator of General Services is authorized to promulgate regulations specifying the terms and conditions upon which any federally owned invention, other than inventions owned by the Tennessee Valley Authority, may be licensed on a nonexclusive, partially exclusive, or exclusive basis.

"S209. Restrictions on licensing of federally owned inventions

"(a) No Federal agency shall grant any license under a patent or patent application on a federally owned invention unless the person requesting the license has supplied the agency with a plan for development and/or marketing of the invention, except that any such plan may be treated by the Federal agency as commercial and financial information obtained from a person and privileged and confidential and not subject to disclosure under section 552 of title 5 of the United States Code.

"(b) A Federal agency shall normally grant the right to use or sell any federally owned invention in the United States only to a licensee that agrees that any products embodying the invention or produced through the use of the invention will be manufactured substantially in the United States.

"(cX1) Each Federal agency may grant exclusive or partially exclusive licenses in any invention covered by a federally owned domestic patent or patent application only if, after public notice and opportunity for filing written objections, it is determined that -

"(A) the interests of the Federal Government and the public will best be served by the proposed license, in view of the applicant's intentions, plans, and ability to bring the invention to practical application or otherwise promote the invention's utilization by the public;

"(B) the desired practical application has not been achieved, or is not likely expeditiously to be acheived, under any nonexclusive license which has been granted, or which may be granted, on the invention;

"(C) exclusive or partially exclusive licensing is a reasonable and necessary incentive to call forth the investment of risk capital and expenditures to bring the invention to practical application or otherwise promote the invention's utilization by the public; and

"(D) the proposed terms and scope of exclusivity are not greater than reasonably necessary to provide the incentive for bringing the invention to practical application or otherwise promote the invention's utilization by the public.

"(2) A Federal agency shall not grant such exclusive or partially exclusive license under paragraph (1) of this subsection if it determines that the grant of such license will tend substantially to lessen competition or result in undue concentration in any section of the country in any line of commerce to which the technology to be licensed relates, or to create or maintain other situations inconsistent with the antitrust laws.

"(3) First preference in the exclusive or partially exclusive licensing of federally owned inventions shall go to small business firms submitting plans that are determined by the agency to be within the capabilities of the firms and equally likely, if executed, to bring the invention to practical application as any plans submitted by applicants that are not small business firms.

"(d) After consideration of whether the interests of the Federal Government or United States industry in foreign commerce will be enhanced, any Federal agency may grant exclusive or partially exclusive licenses in any invention covered by a foreign patent application or patent, after public notice and opportunity for filing written objections, except that a Federal agency shall not grant such exclusive or partially exclusive license if it determines that the grant of such license will tend substantially to lessen competition or result in undue concentration in any section of the United States in any line of commerce to which the technology to be licensed relates, or to create or maintain other situations inconsistent with antitrust laws.

"(e) The Federal agency shall maintain a record of determinations to grant exclusive or partially exclusive licenses.

"(f) Any grant of a license shall contain such terms and conditions as the Federal agency determines appropriate for the protection of the interests of the Federal Government and the public, including provisions for the following:

"(1) periodic reporting on the utilization or efforts at obtaining utilization that are being made by the licensee with particular reference to the plan submitted: Provided, That any such information may be treated by the Federal agency as commercial and financial information obtained from a person and privileged and confidential and not subject to disclosure under section 552 of title 5 of the United States Code;

"(2) the right of the Federal agency to terminate such license in whole or in part if it determines that the licensee is not executing the plan submitted with its request for a license and the licensee cannot otherwise demonstrate to the satisfaction of the Federal agency that it has taken or can be expected to take within a reasonable time, effective steps to achieve practical application of the invention;

"(3) the right of the Federal agency to terminate such license in whole or in part if the licensee is in breach of an agreement obtained pursuant to paragraph (b) of this section; and

"(4) the right of the Federal agency to terminate the license in whole or in part if the agency determines that such action is necessary to meet requirements for public use specified by Federal regulations issued after the date of the license and such requirements are not reasonably satisfied by the licensee.

"S210. Precedence of chapter

"(a) This chapter shall take precedence over any other Act which would require a disposition of rights in subject inventions of small business

firms or nonprofit organizations contractors in a manner that is inconsistent with this chapter, including but not necessarily limited to the following:

"(1) section 10(a) of the Act of June 29, 1935, as added by title I of the Act of August 14, 1946 (7 U.S.C. 427i(a); 60 Stat. 1085);

"(2) section 205(a) of the Act of August 14, 1946 (7 U.S.C.1624(a); 60 Stat. 1090);

"(3) section 501(c) of the Federal Mine Safety and Health Act of 1977 (30 U.S.C. 951(c); 83 Stat. 742);

"(4) section 106(c) of the National Traffic and Motor Vehicle Safety Act of 1966 (15 U.S.C. 1395(c); 80 Stat. 721);

"(5) section 12 of the National Science Foundation Act of 1950 (42 U.S.C. 1871(a); 82 Stat. 360);

"(6) section 152 of the Atomic Energy Act of 1954 (42 U.S.C. 2182; 68 Stat. 943);

"(7) section 305 of the National Aeronautics and Space Act of 1958 (42 U.S.C. 2457);

"(8) section 6 of the Coal Research Development Act of 1960 (30 U.S.C. 666; 74 Stat. 337);

"(9) section 4 of the Helium Act Amendments of 1960 (50 U.S.C. 167b; 74 Stat. 920);

"(10) section 32 of the Arms Control and Disarmament Act of 1961 (22 U.S.C. 2572; 75 Stat. 634);

"(11) subsection (e) of section 302 of the Appalachian Regional Development Act of 1965 (40 U.S.C. Appr. 302(e); 79 Stat. 5);

"(12) section 9 of the Federal Nonnuclear Energy Research and Development Act of 1974 (42 U.S.C. 5901; 88 Stat. 1878);

"(13) section 5(d) of the Consumer Product Safety Act (15 U.S.C. 2054(d); 86 Stat. 1211;

"(14) section 3 of the Act of April 5, 1944 (30 U.S.C. 323; 58 Stat. 191);

"(15) section 8001(cX3) of the Solid Waste Disposal Act (42 U.S.C. 6981(c); 90 Stat. 2829);

"(16) section 219 of the Foreign Assistance Act of 1961 (22 U.S.C. 2179; 83 Stat. 806);

"(17) section 427(b) of the Federal Mine Health and Safety Act of 1977 (30 U.S.C. 937(b); 86 Stat. 155);

"(18) section 306(d) of the Surface Mining and Reclamation Act of 1977 (30 U.S.C. 1226(d); 91 Stat. 455);

"(19) section 21(d) of the Federal Fire Prevention and Control Act of 1974 (15 U.S.C. 2218(d); 88 Stat 1548);

"(20) section 6(b) of the Solar Photovoltaic Energy Research Development and Demonstration Act of 1978 (42 U.S.C. 5585(b); 92 Stat. 2516

"(21) section 12 of the Native Latex Commercialization and Economic Development Act of 1978 (7 U.S.C. 178(j); 92 Stat. 2533); and

"(22) section 408 of the Water Resources and Development Act of 1978 (42 U.S.C. 7879; 92 Stat. 1360).

The Act creating this chapter shall be construed to take precedence over any future Act unless that Act specifically cites this Act and

provides that is shall take precedence over this Act.

"(b) Nothing in this Chapter is intended to alter the effect of the laws cited in parapgraph (a) of this section or any other laws with respect to the disposition of rights in inventions made in the performance of funding agreements with persons other than nonprofit organizations or small business firms.

"(c) Nothing in this chapter is intended to limit the authority of agencies to agree to the disposition of rights in inventions made in the performance of work under funding agreements with persons other than nonprofit organizations or small business firms in accordance with the Statement of Government Patent Policy issued on August 23, 1971 (36 Fed. Reg. 16887), agency regulations, or other applicable regulations or to otherwise limit the authority of agencies to allow such persons to retain ownership of inventions. Any disposition of rights in inventions made in accordance with the Statement or implementing regulations, including any disposition occuring before enactment of this section, are hereby authorized.

"(d) Nothing in thischapter shall be construed to require the disclosure of intelligence sources or methods or to otherwise affect the authority granted to the Director of Central Intelligence by statute or Executive order for the protection of intelligence sources or methods.

"S211. Relationship to antitrust laws

"Nothing in this chapter shall be deemed to convery to any person immunity from civil or criminal liability, or to create any defenses to actions, under any antitrust law."

"(b) The table of chapters for title 35, United States Code, is amended by adding immediately after the item relating to chapter 37 the following:

"38. Patent rights in inventions made with Federal assistance".

SEC. 7 AMENDMENTS TO OTHER ACTS.--The following Acts are amended as follows:

(a) Section 156 of the Atomic Energy Act of 1954 (42 U.S.C. 2186; 68 Stat. 947) is amended by deleting the words "held by the Commission or".

(b) The National Aeronautics and Space Act of 1958 is amended by repealing paragraph (g) of section 305 (42 U.S.C. 2457(g); 72 Stat. 436).

(c) The Federal Nonnuclear Energy Research and Development Act of 1974 is amended by repealing paragraphs (g), (h), and (i) of section 9 (42 U.S.C. 5908(g), (h), and (i); 88 Stat. 1889-1891).

SEC. 8 (a) Sections 2, 4 and 5 of this Act will take effect upon enactment.

(b) Section 1 of this Act will take effect on the first day of the seventh month beginning after its enactment and will apply to patents in force as of that date or issued thereafter.

(c) Section 3 of this Act will take effect on the first day of the first fiscal year beginning on or after one calendar year after enactment. However, until section 3 takes effect, the Commissioner may credit the

Patent and Trademark Office appropriation account in the Treasury of the United States with the revenues from collected reexamination fees, which will be available to pay the costs to the Office of reexamination proceedings.

(d) Any fee in effect as of the date of enactment of this Act will remain in effect until a corresponding fee established under section 41 of title 35, United States Code, or section 1113 of title 15, United States Code, takes effect.

(e) Fees for maintaining a patent in force will not be applicable to patents applied for prior to the date of enactment of this Act.

(f) Sections 6 and 7 of this Act will take effect on the first day of the seventh month beginning after its enactment. Implementing regulations may be issued earlier.

(g) Sections 8 and 9 will take effect on the date of enactment of this Act.

SEC.9. The Commissioner of Patents and Trademarks shall report to Congress, within two years after the effective date of this Act, a plan to identify, and if necessary develop or have developed, computerized data and retrieval systems equivalent to the latest state of the art, which can be applied to all aspects of the operation of the Patent and Trademark Office, and particularly to the patent search file, the patent classification system, and the trademark search file. The report shall specify the cost of implementing the plan, how rapidly the plan can be implemented by the Pantent and Trademark Office, without regard to funding which is or which may be available for this purpose in the future.

SEC. 10. (a) Section 101 of title 17 of the United States Code is amended to add at the end thereof the following new language:

"A 'computer program' is a set of statments or instructions to be used directly or indirectly in a computer in order to bring about a certain result.".

(b) Section 117 of title 17 of the United States Code is amended to read as follows:

"S117. Limitations on exclusive rights: Computer programs

"Notwithstanding the provisions of section 106, it is not an infringement for the owner of a copy of a computer program to make or authorize the making of another copy or adaptation of that computer program provided:

"(1) that such a new copy of adaptation is created as an essential step in the utilization of the computer program in conjunction with a machine and that it is used in no other manner, or

"(2) that such new copy or adaptation is for archival purposes only and that all archival copies are destroyed in the event that continued possession of the computer program should cease to be rightful.

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